

## REPORT ON WATER TUBE/BOILERS.

AUXILIARY

No. FE-10175

11 JUL

Date of writing Report 29th May 1962 When handed in at Local Office JUN 28 1962 19 Port of KOBE

No. in Survey held at Aioi, Japan Date, First Survey 6-5-1961 Last Survey 7-5-1962

Reg. Book. on the m.v. "LENKORAN" (Number of Visits 63) Gross 23158.70 Tons Net 14574.52

Built at Aioi, Japan By whom built Ishikawajima-Harima Heavy Ind., Co., Ltd., Aioi Works Yard No. 592 When built 1962-5

Engines made at - Ditto - By whom made - Ditto - Engine No. ID 208 When made 1962-5

Boilers made at - Ditto - By whom made - Ditto - Boiler No. B 2162 When made 1962-5

HS for Register Book Owners. Vsesojuznoje Exportno-Importnoje Objedinenije "Sudimport" Moscow, U.S.S.R. Port belonging to Odessa

**WATER TUBE BOILERS - MAIN AUXILIARY, OR DONKEY.** Manufacturers of Steel Plates: - The Japan Steel Works Ltd., Muroran Plant. Tubes: - Sumitomo Metal Ind., Ltd., Steel Tube Works

Date of Approval of plan 10-2-61, 29-8-61 No. and Description or Type of Boilers 2-Two Drum Type Water Tube Boiler. Design Pressure 17 Kg/cm<sup>2</sup> Working Pressure 16 Kg/cm<sup>2</sup> Tested by Hydraulic Pressure to 29 Kg/cm<sup>2</sup> Date of Test 11-9-61

No. of Certificate I-75518 Can each boiler be worked separately Yes Total Heating Surface of Boilers 2x 307M<sup>2</sup> Superheaters None

Half Economisers None Is forced draught fitted Yes Area of Fire Grate (coal) in each Boiler 3x Ishikawajima-Harima P-All Pressure Type Heavy

No. and type of burners (oil) in each boiler 2 x 90A High Lift Single Type No. and description of safety valves on each boiler 2 x 6351.74mm<sup>2</sup> Pressure to which they are adjusted 16 Kg/cm<sup>2</sup> Are they fitted with easing gear Yes In case of donkey boilers state whether steam from main boilers can enter the donkey boiler Fitted away from Bunkers or Wood Work Height of boiler 5625 mm.

Width and length 4933.7mm. & 4110mm Steam Drums: - Number in each boiler 1 Inside diameter 1290 mm.

Thickness of plates 16mm. Range of tensile strength 44 Kg/mm<sup>2</sup> to 50 Kg/mm<sup>2</sup> Are drum shell plates welded or flanged Welded If fusion welded, state name of welding firm Ishikawajima-Harima Heavy Industries Have all the requirements of the Rules for Class I vessels been complied with Yes Description of riveting: - Circ. seams - long. seams -

Diameter of rivet holes in long. seams - Pitch of rivets - Thickness of straps - Percentage strength of long. joint: - Plate - Rivet - Diameter of tube holes in drum 51.6mm. Pitch of tube holes 108.8mm.

Percentage strength of shell in way of tubes 35.15% & 42% Steam Drum Heads or Ends: - Range of tensile strength 44 Kg/mm<sup>2</sup> to 47 Kg/mm<sup>2</sup>

Thickness of plates 24mm. Radius or how stayed 1050 mm. Size of manhole or handhole 406mm. x 305mm. Water Drums: - Number in each boiler 1 Inside diameter 808mm. Thickness of plates 16mm. Range of tensile strength 44 Kg/mm<sup>2</sup> to 50 Kg/mm<sup>2</sup> Are drum shell plates welded or flanged Welded If fusion welded, state name of welding firm Ishikawajima-Harima Heavy Ind. Co., Ltd., Aioi Works Have all the requirements of the Rules for Class I vessels been complied with Yes Description of riveting: - Circ. seams - long. seams -

Diameter of rivet holes in long. seams - Pitch of rivets - Thickness of straps - Percentage strength of long. joint: - Plate - Rivet - Diameter of tube holes in drum 51.6mm. Pitch of tube holes 108.8mm.

Percentage strength of drum shell in way of tubes 35.15% & 41.2% Water Drum Heads or Ends: - Range of tensile strength 44 Kg/mm<sup>2</sup> to 47 Kg/mm<sup>2</sup>

Thickness of plates 19 mm. Radius or how stayed 660 mm. Size of manhole or handhole 406mm. x 305mm.

Headers or Sections: - Number 3 sets (Side) Material Forging Thickness 25 mm. Tested by hydraulic pressure to 29 Kg/cm<sup>2</sup>

Tubes: - Diameter 38.1mm., 50.8mm. & 76.3mm. Thickness 2.9mm., 3.5mm. & 4.2mm. Number 664, 86 & 10 Steam Dome or Collector: - Description of joint to shell - Inside diameter - Thickness of shell plates - Range of tensile strength - Description of longitudinal joint - If fusion welded, state name of welding firm - Have all the requirements for the Rules for Class I vessels been complied with - Diameter of rivet holes - Pitch of rivets - Thickness of straps - Percentage strength of long. joint: - plate - rivet -

**Crown or End Plates:** - Range of tensile strength - Thickness - Radius or how stayed -

**SUPERHEATER, Drums or Headers:** - Number in each boiler None Inside diameter -

Thickness - Material - Range of tensile strength - Are drum shell plates welded or flanged - 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 - long. seams -

Diameter of rivet holes in long. seams - Pitch of rivets - Thickness of straps - Percentage strength of long. joint: - Plate - Rivet - Diameter of tube holes in drum - Pitch of tube holes - Percentage strength of drum shell in way of tubes -

Radius or how stayed - Size of manhole or handhole - Number, diameter, and thickness of tubes -

Tested by hydraulic pressure to - Date of test - Is a safety valve fitted to each section of the superheater which can be shut off from the boiler - No. and description of safety valves - Area of each set of valves - Pressure to which they are adjusted - Is easing gear fitted -

Spare Gear. Has the spare gear required by the Rules been supplied Yes

The foregoing is a correct description,

S. Minami

ISHIKAWAJIMA-HARIMA HEAVY INDUSTRIES CO., LTD., AIOI WORKS

Manufacturer.

Dates of Survey During progress of work in shops 1961-May 6, 8, June 2, 8, 15, 21, 23, 26, 28, July 4, 5, 8, 12, 14, 15, 17, 18, 21, 22, 24, 25, 28, 31, Aug. 3, 21, 26, 28, Sept. 1, 4, 5, 6, 7, 8, 11, 12, Is the approved plan of boiler forwarded herewith 10-2-1961

while building During erection on board vessel Dec. 1, 18, 19, 21, 23, Nov. 2, 9, 16, 20, 21, 25, 28, 30

Total No. of visits 63

Is this boiler a duplicate of a previous case Yes If so, state vessel's name and report No. m.v. "LISICHANSK" (Yard No. 591)

**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 plan and the Secretary's letters.

The materials and workmanship are sound and good. The auxiliary boilers were hydraulically tested to 29 Kg/cm<sup>2</sup> and examined under steam and the safety valves adjusted under steam to 16 Kg/cm<sup>2</sup> on board the ship. Accumulation test has been carried out in accordance with the Rules with satisfactory results.

Survey Fee ... \$207,800.- When applied for 19

Travelling Expenses (if any) £ : When received 19

FRIDAY - 3 AUG 1962

Date

Committee's Minute

AS, SM:ym

Engineer Surveyor to Lloyd's Register of Shipping

A. Jacobs & S. Matsumoto

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# REPORT ON WATER TUBE BOILERS

## LIST OF MATERIALS

Location.	Charge No.	Plate No.	Makers.
Steam Drum, Shell Plate	360332	6/10	3
	360323	7/9	1
	360317	5/8	1
Water Drum, Shell Plate	360332	6/10	2
	360337	4/7	2
	360317	6/8	1, 2
Header	898 899A, B 900A, B 932		Nippon Kokan K.K., Kawasaki Iron W
Tubes	956 to 983	995	- ditto -
	9245 to 255		- ditto -
	938		- ditto -



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