

## REPORT ON WATER TUBE BOILERS.

No. 3078

23 FEB 1960

Received at London Office

YOKOHAMA

Date of writing Report 18th Nov. 19 59 When handed in at Local Office 19 Port of YOKOHAMA  
 No. in Survey held at Tokyo, Japan Date, First Survey 29th June, 1959 Last Survey 7th July, 19 59  
 Reg. Book. S.S. "ORIENTAL GIANT" (Number of Visits 4) Gross Tons  
 on the S.S. "ORIENTAL GIANT" Net Tons

Built at Tokyo, Japan By whom built Ishikawajima Heavy Industries Yard No. 200 When built  
 Engines made at - do - By whom made Co., Ltd. Engine No. IT 2286 When made 7-59  
 Boilers made at - do - By whom made - do - Boiler No. IB 590 & 591 When made 7-59  
 HS for Register Book 1298m<sup>2</sup> (13972ft<sup>2</sup> x 2) Owners Port belonging to

WATER TUBE BOILERS—MAIN, ~~XXXXXXXXXXXX~~—Manufacturers of Steel Japan Steel Works Ltd., Muroran, Works.

Date of Approval of plan 23-12-58, 11-3-59, 28-4-59, 10-10-59 No. and Description or Type  
 of Boilers Two(2) Ishikawajima FW "D" Type Working Pressure 51kg/cm<sup>2</sup> Tested by Hydraulic Pressure to 80kg/cm<sup>2</sup> Date of Test 29-6-59  
 No. of Certificate YBC139A&B Can each boiler be worked separately Total Heating Surface of Boilers 704m<sup>2</sup> x 2 Superheaters 162m<sup>2</sup> x 2  
 Half Economisers 752/2m<sup>2</sup> x 2 Is forced draught fitted Area of Fire Grate (coal) in each Boiler 56m<sup>2</sup> x 2  
 No. and type of burners (oil) in each boiler Four(4) Todd "D-16" pressure atomizing type No. and description of safety valves on  
 each boiler Two(2) 3" 1556 LA Consolidated full lift type per rule 5043 mm<sup>2</sup>  
 One(1) 3" 1556 LC - do - Area of each set of valves per boiler drum 4374mm<sup>2</sup> Pressure to which they  
 as fitted S.H. 1424 Total 5798mm<sup>2</sup>

are adjusted. Are they fitted with easing gear. In case of donkey boilers state whether steam from main boilers can enter  
 the donkey boiler. Smallest distance between boilers or uptakes and bunkers or woodwork. Height of boiler 9020mm  
 Width and length 6712 x 5376mm Steam Drums:—Number in each boiler One Inside diameter (650R + 616R)mm  
 Thickness of plates T. PL 103mm S. PL 35mm Range of tensile strength T. PL 56.1-56.9 kg/mm<sup>2</sup> S. PL 51.7-52.3 Are drum shell plates welded  
 or flanged welded If fusion welded, state name of welding firm Ishikawajima Heavy Ind., Co., Ltd. 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 32.45, 51.5 Pitch of tube holes 48, 115mm  
 Percentage strength of shell in way of tubes 32.2% (Min.) Steam Drum Heads or Ends:—Range of tensile strength 49.5 - 50.9 kg/mm<sup>2</sup>  
 Thickness of plates 48 Radius or how stayed 1050mm Size of manhole or handhole 305 x 406mm Water Drums:—Number  
 in each boiler One Inside diameter (387.5 + 407)mm Thickness of plates T. PL 63mm S. PL 24mm Range of tensile strength T. PL 51.7-52.4kg/mm<sup>2</sup> S. PL 54.5 Are drum shell plates  
 welded or flanged Welded If fusion welded, state name of welding firm Ishikawajima H. I. Co., Ltd. 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  
 Percentage strength of long. joint:—Plate Rivet Diameter of tube holes in drum 32.45, 51.5 76.9 Pitch of tube holes 48, 115mm  
 Percentage strength of drum shell in way of tubes 32.2% (Min.) 59.8 Water Drum Heads or Ends:—Range of tensile strength 51.2-53.8 kg/mm<sup>2</sup>  
 Thickness of plates 32mm Radius or how stayed 660mm R. dished Size of manhole or handhole 305 x 406mm  
 Headers of Sections Number Five(square) Material Forged steel Thickness 25mm Tested by hydraulic pressure to 80 kg/cm<sup>2</sup>  
 Tubes:—Diameter 1 1/2", 2", 3" Thickness 3.05, 4.2, 5.6mm Number 1377, 303, 14 Steam Dome or Collector:—Description of  
 joint to shell Inside diameter Thickness of shell plates Range of tensile strength  
 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, ~~XXXXXX~~ Headers:—Number in each boiler Four (round) Inside diameter 190mm  
 Thickness 41.5mm Forged Steel Drum Grade A-2P 42.7-42.9 kg/mm<sup>2</sup>  
 or flanged Solid Material 0.5% Mo alloy steel Range of tensile strength 41.3-46.7 Are drum shell plates welded  
 for Class I vessels been complied with If fusion welded, state name of welding firm 44.0-44.1 Have all the requirements of the Rules  
 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 32.45mm Pitch of tube holes 46, 44.5mm Percentage strength of  
 drum shell in way of tubes min. 25.2% Drum Heads or Ends:—Thickness 36mm Range of tensile strength 53.6 kg/mm<sup>2</sup>  
 Radius or how stayed Flat, welded Size of manhole or handhole 70.6 x 86.6mm Number, diameter, and thickness of tubes 234, 1 1/2", 3.05mm  
 Tested by hydraulic pressure to 80 kg/cm<sup>2</sup> Date of test 29-6-59 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 One (1) 3" 1556LC Consolidated full lift Area of each set  
 of valves 2187mm<sup>2</sup> (Equivalent area 1424mm<sup>2</sup>) 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,

Manufacturer.

Dates of Survey During progress of work in shops - 1959: June 29, July, 2, 3, 7. Is the approved plan of boiler forwarded herewith No  
 while During erection on board vessel - Total No. of visits 4

Is this boiler a duplicate of a previous case. If so, state vessel's name and report No. These Boilers have been constructed under the survey

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c. of American Bureau of Shipping. Boilers examined internally and externally and on completion of assembling were tested  
 by hydraulic pressure as stated above and found satisfactory. It is submitted that these boilers are eligible for  
 classification with this Society with the notation of LMC with date when satisfactorily installed in the vessel and the  
 safety valves adjusted under steam.

Survey Fee ... ¥70,000.00 When applied for YOKOHAMA DEC. 5. 1959  
 Travelling Expenses (if any) £ : : When received 19.

FRIDAY 25 MAR 1960

Date See Rpt. 1  
 Committee's Minute

Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register  
Foundation

01219-012164-0143

# BOILER PLATES LIST

## Starboard Boiler

	Size mm	Charge No.	T.S. kg/cm <sup>2</sup>		E %		Maker
<u>Steam Drum</u>							
Tube Plate	105 x 2,050 x 4,490	33516 1/2 2	56.9	56.1	30.4	31.8	J.S.W.
Shell Plate	36 x 2,200 x 4,480	33E1614 2/2 1	52.3	51.7	30.7	32.6	"
End Plate	55 x 1,860 x 1,860	33E1614 1/2 1	50.9	49.5	23.7	27.1	"
" "	"	33E1614 1/2 4	50.9	49.5	"	"	"
<u>Water Drum</u>							
Tube Plate	65 x 1,730 x 4,490	33E1644 1/1 2	52.4	51.7	29.8	31.2	J.S.W.
Shell Plate	25 x 950 x 5,210	32E1728 1/1 4	54.5	54.5	26.8	28.4	"
End Plate	36 x 1,180 x 1,180	33E1673 2/2 2	53.8	51.2	28.2		"
" "	36 x 1,180 x 1,180	33E1673 2/2 3	53.8	51.2	28.2		"

## Port Boiler

<u>Steam Drum</u>							
Tube Plate	105 x 2,050 x 4,490	33516 1/2 1	56.9	56.1	30.4	31.8	J.S.W.
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J.S.W.: Japan Steel Works, Ltd., Muroran Works.



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