

REPORT ON WATER TUBE BOILERS.

No. FE-6715

Received at London Office

KOBE

Date of writing Report 30th Nov., 19 59. When handed in at Local Office 19 Port of Kobe

No. in Survey held at Kobe, Japan Date, First Survey 5th Feb., 1958 Last Survey 22nd October, 19 59.

Reg. Book. Single Screw Steel Steam Vessel "GEKKO MARU" (Number of Visits 63) Gross 24,680.42 Tons

on the Kobe, Japan Built at Kobe, Japan By whom built Kawasaki Dockyard Co., Ltd. Yard No. 972 When built 1959-10

Engines made at Kobe By whom made Kawasaki Dockyard Co., Ltd. Engine No. T366 When made 1959-5

Boilers made at Kobe By whom made Kawasaki Dockyard Co., Ltd. Boiler No. 2212, 2213 When made 1959-6

HS for Register Book 21597 sq.ft. Owners Tokyo Tanker Co., Ltd. Port belonging to Tokyo

WATER TUBE BOILERS—MAIN, AUXILIARY/ON DONKEY—Manufacturers of Steel Japan Steel Wks, Ltd., Murogan Wks
Sumitomo Metal Ind. Ltd.

Date of Approval of plan 27-3-58, 10-4-58, 23-4-58 No. and Description or Type of Boilers 2 off 2 drum "D" type W.T. Boiler Working Pressure 690 lbs/in² Tested by Hydraulic Pressure to 1085 lb/in² Date of Test 22-6-1959

No. of Certificate B-1521 Can each boiler be worked separately Yes Total Heating Surface of Boilers 2x1003.2M² Superheaters 2x123.5M²

Half Economisers 345 x 2M² Is forced draught fitted Yes Area of Fire Grate (coal) in each Boiler (2x10798.4 ft²)

No. and type of burners (oil) in each boiler 4—"Tood" type per boiler No. and description of safety valves on each boiler 2-2 1/2 Improved High Lift Valve

each boiler 2-2 1/2 Improved High Lift Valve Area of each set of valves per boiler { per rule As approved
as fitted 3215 mm² Pressure to which they are adjusted 690 lb/in² Are they fitted with easing gear Yes 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 9.5 M Height of boiler 9M

Width and length 5.8M x 4M Steam Drums:—Number in each boiler One Inside diameter 1,200 mm

Thickness of plates Shell, 32mm, Tube 8mm Range of tensile strength 46-55 kg/mm² Are drum shell plates welded or flanged Welded If fusion welded, state name of welding firm Kawasaki Dockyard 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 32.6 77.0mm Percentage strength of long. joint:—Plate - Rivet - Diameter of tube holes in drum 51.4 102.4 Pitch of tube holes 50 & 110 mm

Percentage strength of shell in way of tubes 34.4 % Corner 172 Steam Drum Heads or Ends:—Range of tensile strength 42-47 kg/mm²

Thickness of plates Front 40mm Back 40mm Radius 960mm Size of manhole 305 x 405mm Water Drums:—Number in each boiler One Inside diameter 760mm Thickness of plates Tube 58mm Range of tensile strength 46-55 kg/mm² Are drum shell plates welded or flanged Welded If fusion welded, state name of welding firm Kawasaki Dockyard 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 32.4 77.0mm Percentage strength of long. joint:—Plate - Rivet - Diameter of tube holes in drum 51.2 102.4 Pitch of tube holes 50 & 110mm

Percentage strength of drum shell in way of tubes 34.8 Water Drum Heads or Ends:—Range of tensile strength 42-47 kg/mm²

Thickness of plates Front 30mm Back 25mm Radius 120mm Corner 120 Inside 600mm Size of manhole 305 x 405mm

Headers on Sections:—Number 3 per boiler Material Forged steel Thickness 26mm Tested by hydraulic pressure to 1085 lb/in²

Tubes:—Diameter 1 1/2", 50.8, 76.2, 101.6mm Thickness 32, 4, 6, 6.5mm Number 1238, 1422, 2, 12 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, Headers:—Number in each boiler 4 Inside diameter 200 mm

Thickness 38mm Material Cr. Mo. Carbon Forged Steel Range of tensile strength 44-63 kg/mm² Are drum shell plates welded or flanged Solid (Welded end) If fusion welded, state name of welding firm Kawasaki Dockyard 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 header 32.4mm Pitch of tube holes 46mm Percentage strength of drum shell in way of tubes 29.1 Drum Heads or Ends:—Forged Steel Thickness 35mm Range of tensile strength 44-63 kg/mm²

Radius or how stayed Flat Size of manhole or handhole 96x78mm Number, diameter, and thickness of tubes 243-32dx3.2t.mm

Tested by hydraulic pressure to 1085 lb/in² Date of test 19, 22 June, 1959 Is a safety valve fitted to each section of the superheater which can be shut off from the boiler. None No. and description of safety valves One 2" Full Lift type Area of each set of valves 1884 mm² Pressure to which they are adjusted 635 lb/in² 850°F Is easing gear fitted Yes

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

Managing Director of Kawasaki Dockyard.

The foregoing is a correct description,

J. Morimoto Manufacturer.

Dates of Survey During progress of work in shops 1958: Feb. 6, 5 Mar. 16, 19 June 11, 28 Aug. 1 Sept. 3, 8, 10, 16, 24
while building During erection on board vessel 1959: Jan. 12, 14, 19, 21, 28 Feb. 2, 4, 9, 16, 25 Mar. 4, 9, 13, 23 Apr. 3 May 4, 8, 13, 14, 20 June 3, 10, 15, 19, 22

Total No. of visits 63

Is this boiler a duplicate of a previous case. Yes If so, state vessel's name and report No. "JEANNE MARRIE"

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c. These boilers have been constructed and installed in the vessel under Special Survey in accordance with the Rules, approved plans and the Secretary's letters. On completion the Safety Valves were adjusted under steam as stated above and found satisfactory. Accumulation tests were waived in accordance with the Rules.

Survey Fee ... £ : : When applied for 19
Travelling Expenses (if any) £ : : When received 19

Date FRIDAY 19 FEB 1960

Committee's Minute

See App. 1

Engineer Surveyor to Lloyd's Register of Shipping.

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013735-013739-0033

| Test No. | Charge No. | Manufacture | Where Used |
|-----------------|------------|---|---------------------------------------|
| 1/7 1 | 32915 | Japan Steel Works Ltd., Muroran Works. | Starb'd Boiler Steam Drum, Tube Plate |
| R4743, 2933 | D26610 | Yawata Iron & Steel Mfg. Co., Ltd. | - do - Shell Plate |
| 5/9 1 | 33022 | Japan Steel Works, Ltd., Muroran Works | - do - End Plate (F) |
| 7M6195 | L7233 | Kawasaki Steel Corp., Fukiai Works | - do - End Plate (B) |
| $\frac{1}{2}$ 1 | 3352 | Japan Steel Works, Ind., Muroran Works | Starb'd Boiler Water Drum, Tube Plat |
| R4565, 2598 | S68979 | Yawata Iron & Steel Mfg. Co., Ltd. | - do - Shell Plate |
| R30, 2596 | D25781 | - do - | - do - End Plate (f) |
| R573, 2187 | R573 | - do - | - do - End Plate (b) |
| 4/5 1 | 3201952 | Japan Steel Works, Ltd., Muroran Works. | Port Boiler Steam Drum, Tube Plate |
| R4743, 2933 | D26610 | Yawata Iron & Steel Mfg. Co., Ltd. | - do - Shell plate |
| 5/9 | 33022 | Japan Steel Works, Ltd., Muroran Works | - do - End Plate (Fro |
| 7M6195 | L7233 | Kawasaki Steel Corp., Fukiai Works | - do - End Plate (ba |
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| R573, 2187 | R573 | - do - | - do - End Plate (Bac |



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