

REPORT ON WATER TUBE BOILERS

No. 1364-E
20 MAY 1953

Received at London Office

Date of writing Report 19 When handed in at Local Office 19 Port of KOBE, JAPAN
 No. in Survey held at KOBE Date, First Survey 14-3-1952 Last Survey 23-1-1953
 Reg. Book. (Number of Visits 48) Gross 17735.85
 on the Steel Single Screw Steam Ship "PATRICIA" Tons Net 13697.91
 Built at KOBE By whom built Kawasaki Dockyard Co., Ltd. Yard No. 925 When built 1-1953
 Engines made at KOBE By whom made Kawasaki Dockyard Co., Ltd. Engine No. T-329 When made 1-1953
 Boilers made at KOBE By whom made Kawasaki Dockyard Co., Ltd. Boiler No. 2159 When made 1-1953
 Nominal Horse Power 770 972 x 2 Owners Ocean Oil Operation Incorporated Port belonging to PANAMA

WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.—Manufacturers of Steel Works of Yamata Iron & Steel Co., Ltd. Amagasaki.
Wakayama Iron Works, Sumitomo Metal Industries, Ltd. Wakayama.

Date of Approval of plan 29-4-1952
 of Boilers 2x Two Drum D-Type Water Tube Boiler Working Pressure 32 kg/cm² Tested by Hydraulic Pressure to 51 kg/cm² Date of Test 13-8-1952
 No. of Certificate B/401 Can each boiler be worked separately Yes Total Heating Surface of Boilers 899.5 m² per Boiler
 Is forced draught fitted Yes Area of Fire Grate (coal) in each Boiler 4 x Volcano Type
 No. and type of burners (oil) in each boiler 4 x Volcano Type No. and description of safety valves on each boiler 29.4 cm²
 Two (2) x Full Lift Type Area of each set of valves per boiler 113.12 cm² Pressure to which they are adjusted 32 kg/cm² Are they fitted with easing gear Yes In case of donkey boilers state whether steam from main boilers can enter the donkey boiler 750 mm Height of boiler 7,550 mm
 Width and length 6,158x4,837 mm Steam Drums:—Number in each boiler One (1) Inside diameter 1,200 mm
 Thickness of plates 28 mm Range of tensile strength 28.8-30.0 Ton/in² 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 34.8 Pitch of rivets 32.6 mm Thickness of straps 50.80 & 51.4 mm Percentage strength of long. joint:—Plate Rivet Diameter of tube holes in drum 51.4 mm Pitch of tube holes 150 mm
 Percentage strength of shell in way of tubes 34.8 Steam Drum Heads or Ends:—Range of tensile strength 29.4-29.8 Ton/in²
 Thickness of plates 42 mm Radius or how stayed 960 mm Size of manhole 305x405 mm Water Drums:—Number in each boiler One (1) Inside diameter 760 mm Thickness of plates 26.2-28.8 Ton/in² 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 34.8 Pitch of rivets 32.6 mm Thickness of straps 50.80 & 51.4 mm Percentage strength of long. joint:—Plate Rivet Diameter of tube holes in drum 51.4 mm Pitch of tube holes 150 mm
 Percentage strength of drum shell in way of tubes 34.8 Water Drum Heads or Ends:—Range of tensile strength 28.4 Ton/in²
 Thickness of plates 28 mm Radius or how stayed 600 mm Size of manhole 305x405 mm
 Headers or Sections:—Number 3 per boiler Material Solid Thickness 30 mm Tested by hydraulic pressure to 64 kg/cm²
 Tubes:—Diameter 32 & 50.8 mm Thickness 3.5 & 4.5 mm Number 2,256+460 per ship 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 Two (2) per boiler Inside diameter 178 mm square
 Thickness 30 mm Material Solid Range of tensile strength 34.0-36.4 Ton/in² Are drum shell plates welded or flanged Solid (End plates only 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 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 32.4 mm Pitch of tube holes 92 mm Percentage strength of drum shell in way of tubes Header Boiler plate Thickness 40 mm Range of tensile strength 26.6-26.9 Ton/in²
 Radius or how stayed Plain & welded Size of manhole 100x119 mm Number, diameter, and thickness of tubes 67x32m.m.x3.5m.m.
 Tested by hydraulic pressure to 64 kg/cm² Date of test 10-9-1952, 29-9-1952 Is a safety valve fitted to each section of the superheater Yes
 No. and description of safety valves One (1) per boiler, High Lift Type Area of each set of valves 28.26 cm² Pressure to which they are adjusted 30 kg/cm² Is easing gear fitted Yes
 Spare Gear. Has the spare gear required by the Rules been supplied Yes

The foregoing is a correct description,

Standing Director of Kawasaki Dockyard, Kobe, Japan.

Dates of Survey During progress of work in shops Mar. 14, 24, 28, 31, May 7, 9, 12, 16, 21, 23, 28, June 4, 6, 11, 18, 20, 23, 24, 27, 30, July 2, 4, 11, 14, 18, 25, 30, Aug. 1, 8, 11, 13, 18, 25, Sep. 1, 3, 5, 10, 15, 19, 29, Oct. 10 - 1952 Is the approved plan of boiler forwarded herewith No
 while building During erection on board vessel Oct. 25, 1952 Jan. 7, 14, 16, 21, 22, 23, -1953 Total No. of visits 48

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 Main Boilers of this vessel have been constructed under Special Survey in accordance with the Rules, Approved Plans and Secretary's Letters. The workmanship and materials are sound and good. The Main Boilers have been examined under steam. The safety valves adjusted to 32 kg/cm² and found satisfactory.

Survey Fee ... £ 288.60.0 When applied for 12 MAY 1953
 Travelling Expenses (if any) £ : : When received 19

FRI. 12 JUN 1953

Date
 Committee's Minute Sue F.E. Mackay. spk

Engineer Surveyor to Lloyd's Register of Shipping.

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