

REPORT ON WATER TUBE BOILERS.

No. 1536

Received at London Office - 9 SEP 1953

Date of writing Report 19 When handed in at Local Office 27. AUG 1953 Port of K O B E  
No. in Survey held at Aioi, Japan Date, First Survey 15-10-52 Last Survey 22-6 19 53  
Reg. Book. (Number of Visits 30) Gross 17808.22  
on the Steel Single Screw S.T. " KOHO - MARU " Tons 13397.88  
Built at Aioi, Japan By whom built Harima Shipbuilding & Eng. Co., Ltd. 477 When built July, '53.  
Engines made at Tokyo, Japan By whom made Ishikawajima Heavy Ind. Co. Engine No. IT2192 When made July, '53.  
Boilers made at Aioi, Japan By whom made Harima Shipbuilding & Eng. Co. Boiler No. B 761 When made July, '53.  
Nominal Horse Power 1727.785 Owners Iino Kaiun K.K. Port belonging to Tokyo

WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.—Manufacturers of Steel plate;Muroan & Yawata Tube;Sumitomo  
Date of Approval of plan 19-12-52 No. and Description or Type 2-3-53  
of Boilers 2 sets 3 drum water tube boiler Working Pressure 45kg/cm<sup>2</sup> Tested by Hydraulic Pressure to 71kg/cm<sup>2</sup> Date of Test 11-3-53  
No. of Certificate B 446, B 447 Can each boiler be worked separately Yes Total Heating Surface of Boilers 11,475 sq.in. Evaporating tube 17030m<sup>2</sup> Water heater 462.4 Total 1926.2  
Is forced draught fitted Yes Area of Fire Grate (coal) in each Boiler 7 x 500kg TODD Type No. and description of safety valves on  
No. and type of burners (oil) in each boiler 7 x 500kg TODD Type each boiler 70mm x 2 High lift Type Area of each set of valves per boiler { per rule 11.475 sq.in. Pressure to which they  
are adjusted 46.2kg/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 - Smallest distance between boilers and bunkers 600 mm. Height of boiler 6055mm  
Width and length 6293 x 5498 mm Steam Drums:—Number in each boiler (S) 29.7-33.4 (T) 30.2-30.8 T/sq.in<sup>2</sup> Inside diameter 1400 mm  
Thickness of plates Shell 37mm Tube 7mm Range of tensile strength Harima Shipbuilding & Eng. Co., Have all the requirements of the Rules  
or flanged Welded If fusion welded, state name of welding firm Description of riveting:—Circ. seams - long seams -  
for Class I vessels been complied with Yes Diameter of rivet holes in long. seams - Pitch of rivets - Thickness of straps 40.6, 51.4 Percentage strength of  
long. joint:—Plate - Rivet - Diameter of tube holes in drum 102.2 mm Pitch of tube holes 70.90.106 mm.  
Percentage strength of shell in way of tubes 42.0, 42.9, 51.5 Steam Drum Heads or Ends:—Range of tensile strength 27.8-28.8 T/sq.in<sup>2</sup>  
Thickness of plates 64 mm Radius 1150mm Size of manhole or handhole 305 x 405mm Water Drums:—Number 2 Inside diameter 900, 600mm Thickness of plates 51.4 28.8  
in each boiler 2 If fusion welded, state name of welding firm Harima Shipbuilding & Eng. Co., Have all the requirements of the Rules  
welded or flanged Welded If fusion welded, state name of welding firm Description of riveting:—Circ. seams - long seams -  
for Class I vessels been complied with Yes Diameter of rivet holes in long. seams - Pitch of rivets - Thickness of straps 40.6, 51.4 102.2 mm 70, 90, 106mm.  
Percentage strength of long. joint:—Plate 42.0, 42.9, 51.5 Water Drum Heads or Ends:—Range of tensile strength 29.3-29.0 T/in<sup>2</sup>; 28.8 T/in<sup>2</sup>  
Percentage strength of drum shell in way of tubes 55.6 Thickness of plates 46.34 mm Radius or 800; 550 mm Size of manhole or handhole 305 x 405; 275 x 375mm.  
Headers or Sections:—Number 2 Material Forged steel Thickness 26 mm Tested by hydraulic pressure to 71 kg/cm<sup>2</sup>  
Tubes:—Diameter 50.8 mm Thickness 5.0 mm Number 22 Steam Dome or Collector:—Description of  
joint to shell 101.6 Inside diameter 4 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:—Number in each boiler 4 Inside diameter 178 x 178 mm  
Thickness 26 mm Material Cr-Mo steel Range of tensile strength 29.8-30.5 T/in<sup>2</sup> Are drum shell plates welded  
or flanged No 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 32.4 mm Percentage strength of  
long. joint:—Plate - Rivet - Diameter of tube holes in drum 57 mm Percentage strength of  
drum shell in way of tubes 43.1 Drum Heads or Ends:—Cr-Mo steel Thickness 30.28mm Range of tensile strength 29.8-30.5 T/in<sup>2</sup>  
Radius or how stayed T Square Size of manhole or handhole - Number, diameter, and thickness of tubes 102x32 mm x 3.5 mm.  
Tested by hydraulic pressure to 90kg/cm<sup>2</sup> Date of test 2-3-53; 12-3-53 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 1 x 70mm High lift type Area of each set  
of valves 5.7375 sq.in Pressure to which they are adjusted 42.2kg/cm<sup>2</sup> Is easing gear fitted Yes  
Spare Gear. Has the spare gear required by the Rules been supplied Yes

The foregoing is a correct description,

M. Yashikawa Manufacturer.  
THE HARIMA SHIPBUILDING AND  
ENGINEERING COMPANY, LTD.  
Is the approved plan of boiler forwarded herewith

Dates During progress of work in shops - 1952 OCT. 15 Dec. 6. 10. 17. 22. 24. 29. 1953 Jan. 6. 10. 14. 17. 20. 26  
of Survey while building - FEB. 2. 9. 18. 25. MARCH 2. 4. 10. 11. 14. 19  
During erection on board vessel - 1953 March 21 April 22 25 June 1. 16. 19. 22  
Total No. of visits 30

Is this boiler a duplicate of a previous case Yes If so, state vessel's name and report No. S.T. "YUHO-MARU"

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 found sound and good. The main boilers have been examined under steam. The safety valves adjusted as stated above and accumulation test carried out and found satisfactory.

Survey Fee £ 409.200 When applied for 27. AUG 1953  
Travelling Expenses (if any) £ : : When received 19

Date

Committee's Minute See Rpt. 45

Engineer Surveyor to Lloyd's Register of Shipping.

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