

REPORT ON BOILERS.

No. 6236

8/10, 19/10/36

Date of writing Report 28th Oct 1937 When handed in at Local Office 28/10/1937 Port of YOKOHAMA

Received at London Office

NOV 23 1937

No. in Reg. Book. Survey held at YOKOHAMA

Date, First Survey 28th November 1936 Last Survey 24th Sept 1937

on the Steel Screw M.V. YUKAGIR

(Number of Visits 15) Gross 1435 Tons Net 860

Master Built at Yokohama By whom built Mitsubishi Jukogyo K.K. Yokohama Dock Yard No. 264 When built 1937
Engines made at Yokohama By whom made Mitsubishi J. K. K. Yokohama Dock Engine No. 264 When made 1937
Boilers made at Yokohama By whom made Mitsubishi J. K. K. Yokohama Dock Boiler No. 264 When made 1937
Nominal Horse Power 185 Owners Union of Soviet Socialist Republics Port belonging to Murmansk

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR DONKEY.~~

Manufacturers of Steel The Steel Co. of Scotland, Ltd & Isurumi Seitetsu K. K., Yokohama (Letter for Record S)

Total Heating Surface of Boilers 59.4 M² Is forced draught fitted Yes Coal or Oil fired Oil & Exhaust

No. and Description of Boilers One cylindrical marine with water tubes in dry C.C. Working Pressure 8.5 kg/cm²

Tested by hydraulic pressure to 16.25 kg/cm² Date of test 1-3-37 No. of Certificate 57 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 3 Spring loaded

Area of each set of valves per boiler { per Rule 51 cm² as fitted 66.4 cm² Pressure to which they are adjusted 8.5 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 ✓

Smallest distance between boilers or uptakes and bunkers or woodwork ✓ Is oil fuel carried in the double bottom under boilers ✓

Smallest distance between shell of boiler and tank top plating One 2nd platform Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 2600 mm Length 1740 mm Shell plates: Material Steel Tensile strength 44-55 kg/cm²

Thickness 16 mm Are the shell plates welded or flanged ✓ Description of riveting: circ. seams { end P.R. Lap inter. ✓

long. seams D.R.D.B.S. Diameter of rivet holes in { circ. seams 26.5 mm long. seams 23 mm Pitch of rivets { 78 mm 92 "

Percentage of strength of circ. end seams { plate 66% rivets 64.3% Percentage of strength of circ. intermediate seam { plate 75% rivets 83.9%

Percentage of strength of longitudinal joint { plate 75% rivets 83.9% combined ✓ Working pressure of shell by Rules 9.51 kg/cm²

Thickness of butt straps { outer 12 mm inner 16 mm No. and Description of Furnaces in each Boiler Two daylight type

Material Steel Tensile strength 41-47 kg/cm² Smallest outside diameter 464 mm

Length of plain part { top ✓ bottom ✓ Thickness of plates { crown 12 mm bottom ✓ Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 15.8 kg/cm²

End plates in steam space: Material Steel Tensile strength 41-47 kg/cm² Thickness 20 mm Pitch of stays 350 x 370 mm

How are stays secured nuts inside & out Working pressure by Rules 9.8 kg/cm²

Tube plates: Material { front Steel back ✓ Tensile strength { 41-47 kg/cm² Thickness { 20 mm 20 mm

Mean pitch of stay tubes in nests 324 x 306 mm Pitch across wide water spaces 330 mm Working pressure { front 12 kg/cm² back ✓

Girders to combustion chamber tops: Material ✓ Tensile strength ✓ Depth and thickness of girder at centre ✓

Length as per Rule ✓ Distance apart ✓ No. and pitch of stays in each ✓ Working pressure by Rules ✓

Combustion chamber plates: Material ✓ Tensile strength ✓ Thickness: Sides ✓ Back ✓ Top ✓ Bottom ✓

Pitch of stays to ditto: Sides ✓ Back ✓ Top ✓ Bottom ✓ Are stays fitted with nuts or riveted over ✓

Working pressure by Rules ✓ Front plate at bottom: Material Steel Tensile strength 41-47 kg/cm²

Thickness 20 mm Lower back plate: Material Steel Tensile strength 41-47 kg/cm² Thickness 20 mm

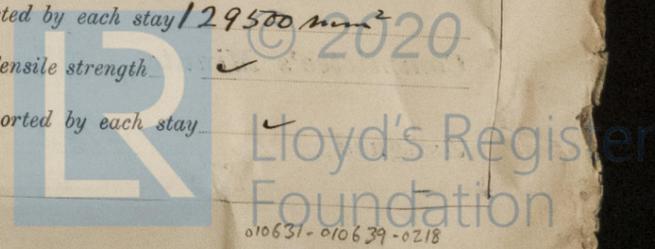
Pitch of stays at wide water space 330 mm Are stays fitted with nuts or riveted over ✓

Working Pressure 10.5 kg/cm² Main stays: Material Steel Tensile strength 44-55 kg/cm²

Diameter { At body of stay, 45 mm or ✓ No. of threads per inch 6 Area supported by each stay 12950 mm²

Working pressure by Rules 9.3 kg/cm² Screw stays: Material ✓ Tensile strength ✓

Diameter { At turned off part, ✓ or ✓ No. of threads per inch ✓ Area supported by each stay ✓



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Working pressure by Rules Are the stays drilled at the outer ends Margin stays: Diameter At turned off part, or Over threads

No. of threads per inch Area supported by each stay Working pressure by Rules

Tubes: Material Steel External diameter Plain 3" Stay 3" Thickness 9 L.S.G. No. of threads per inch 9

Pitch of tubes 108 x 102 m/m Working pressure by Rules 13.5 kg/cm² Manhole compensation: Size of opening in shell plate 406 x 305 m/m Section of compensating ring No. of rivets and diameter of rivet holes

Outer row rivet pitch at ends Depth of flange if manhole flanged Steam Dome: Material Steel

Tensile strength 41-47 kg/cm² Thickness of shell 10 m/m Description of longitudinal joint D.R. Lap.

Diameter of rivet holes 20 m/m Pitch of rivets 65 m/m Percentage of strength of joint Plate 69.2% Rivets 76.6%

Internal diameter 900 m/m Working pressure by Rules 13 kg/cm² Thickness of crown 14 m/m No. and diameter of stays

How connected to shell D.R. Inner radius of crown 900 m/m Working pressure by Rules 12.8 kg/cm²

Size of doubling plate under dome 1170 m/m x 16 m/m Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 20 m/m C 65 m/m

Type of Superheater _____ Manufacturers of Tubes Steel forgings

Size of Manhole or Handhole _____ Water Drums: Number in each boiler One Inside Diameter 450 m/m

Material of plates Steel Thickness 20 & 12 m/m Range of tensile strength 41-47 kg/cm² Are drum shell plates welded or flanged

Description of riveting: Cir. seams S.R. Lap long. seams Seamless Diameter of Rivet Holes in long. seams Pitch of rivets Lap of plates or width of butt straps Thickness of straps

Percentage strength of long. joint: Plate Rivet Diameter of tube holes in drum 45.5 m/m Pitch of tube holes 73 m/m

Percentage strength of drum shell in way of tubes 37.6% Water Drum Heads or Ends: Material Steel Thickness 22 m/m

Radius or how stayed Size of manhole or handhole _____ Headers or Sections: Number _____

tubes _____ forgings and castings _____ and after assembly in place _____ Are drain cocks or valves fitted to free the superheater from water where necessary _____

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with _____

The foregoing is a correct description,
N. Hattery Manufacturer

Dates of Survey During progress of work in shops - - - 18/11, 7, 10, 17/12, 36, 19, 21/1, 8/2, 1/3/37 Are the approved plans of boiler and superheater forwarded herewith 23-6-36
 While building During erection on board vessel - - - 10/7, 20/7, 12/8, 13/14/8, 16/9, 24/9/37 Total No. of visits 15

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. T 94 T. 21. YKA Rpt. no 604546

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey in accordance with the Rules & Approved plan. Material & workmanship good.

On completion of fitting onboard, boiler examined under steam and safety valves adjusted. Accumulation trials carried out with satisfactory results.

This boiler is eligible in our opinion to be classed with the machinery and to have the record of survey Δ LMC 10-37.

Survey Fee £ 7 : 18 : 0 When applied for, 19-10-1937
Travelling Expenses (if any) £ : : When received, 19

J. Mileolas Michigan
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 7 DEC 1937
Assigned See Yka F.C. 6236

