

Rpt. 5a.

REPORT ON BOILERS.

No. 6236

Date of writing Report 28 Oct 1937

When handed in at Local Office

28/10/1937

1937

Port of YOKOHAMA.

Received at London Office

NOV 23 1937

No. in Survey held at YOKOHAMA

Reg. Book.

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

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 cm²as 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

Is oil fuel carried in the double bottom under boilers

Smallest distance between boilers or uptakes and bunkers or woodwork

✓

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

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

rivets

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

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

back

Steel

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

back 12 kg/cm²

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

✓

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

Over threads

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

Over threads

No. of threads per inch

✓

Area supported by each stay

✓

Lloyd's Register
Foundation

010631-010639-0218

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 kgs/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 kgs/mm² 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 kgs/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 kgs/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 kgs/mm² 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,
No. Hattery Manufacturer KOBE.

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. T94 T. 21. / K.A. 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 LA LMC 10-37.

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

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

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