

REPORT ON BOILERS.

No. 6115.

AUG 9 1937

Received at London Office

Date of writing Report 19th July 1937 When handed in at Local Office 19-7-1937 Port of YOKOHAMA

No. in Survey held at YOKOHAMA
Reg. Book.

Date, First Survey 9th November, 1936 Last Survey 25th May 1937

(Number of Visits 11) Gross 1079
Tons Net

on the Steel Sc. M.V. "No 3"

Master *at B* Built at Yokohama By whom built Mitsubishi Jukogyo K.K. Yokohama Dock Yard No. 269 When built 1937
 Engines made at Yokohama By whom made Mitsubishi Jukogyo K.K. Yokohama Sh Engine No. 269 When made 1937
 Boilers made at Yokohama By whom made Mitsubishi Jukogyo K.K. Yokohama Sh Boiler No. 269 When made 1937
 Nominal Horse Power 141 Owners Union of Soviet Socialist Republic Port belonging to Vladivostok

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR~~ DONKEY.Manufacturers of Steel *Tsurumi Seitetsu Zosen K.K. Tokyo Kozai K.K. Colvilles Ltd*
The Steel Company of Scotland

(Letter for Record S. ✓)

Total Heating Surface of Boilers 59.4 M² Is forced draught fitted Yes. Coal or Oil fired Exhaust gases ✓No. and Description of Boilers *One cylindrical marine with water tubes in dry combustion chamber* Working Pressure 8.5 kg/cm² ✓Tested by hydraulic pressure to 16.25 kg/cm² Date of test 23-3-37 No. of Certificate 59 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 2 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 *Boiler on end 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.L.A.P.
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 mm ✓Percentage of strength of circ. end seams {plate 66%
rivets 64.3% Percentage of strength of circ. intermediate seam {plate
rivetsPercentage of strength of longitudinal joint {plate 75%
rivets 83.9% 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 Deighton Corrugated* ✓Material Steel Tensile strength 41-47 kg/cm² Smallest outside diameter 764 mm ✓Length of plain part {top
bottom Thickness of plates {crown 12 mm 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 350x370 mm ✓How are stays secured *nuts inside & out* ✓ Working pressure by Rules 9.8 kg/cm² ✓Tube plates: Material {front Steel Tensile strength 41-47 kg/cm² Thickness {20 mm
back 20 mmMean pitch of stay tubes in nests 324x306 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 ✓ 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 *nuts* ✓Working Pressure 10.5 kg/cm² Main stays: Material Steel Tensile strength 44-55 kg/cm² ✓

Diameter {At body of stay 45 mm No. of threads per inch 6 Area supported by each stay 350x370 mm ✓

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

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

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" Thickness ☒ 9/16" 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 Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 20 m/m x 65 m/m

Type of Superheater

Manufacturers of 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 m/m Range of tensile strength 41-47 kg/cm² Are drum shell plates welded or flanged No 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 hour stamped ☒ Size of manhole or handhole ☒ Headers or Sections:—Number Hydraulic test pressure:
Pressure to which the safety valves are adjusted ☒
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,

M. Hattery Manufacturer.

Dates of Survey ☒ During progress of work in shops 9/11, 7/12, 9/12, 10/12, 17/12/36 Are the approved plans of boiler and superheater forwarded herewith 23/6/36 (If not state date of approval.)
while building ☒ During erection on board vessel 19/4, 22/4, 7/5, 28/5, 25/5/37 Total No. of visits 11

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. T.9. YKA Rpt No 6045
T.21 " " " 6046

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 plans. Materials & Workmanship good. This boiler has been securely fitted aboard and has been examined under steam. Safety valves adjusted to 8.5 kg/cm² and accumulation tests 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 DAHMC B-37

Survey Fee ... £ 9 : 18 : 0 When applied for, 16th July 1937
Travelling Expenses (if any) £ Charged to Engine Repd. When received, 20th " 1937

Committee's Minute

TUE. 17 AUG 1937

Assigned

See YKA. J.E. 6115

J. Michael Engineer Surveyor to Lloyd's Register of Shipping.



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