Rpt. 5b.

REPORT ON BOILERS.

No. 1940

Received at London Office 19 FEB 1934

Date of writing Report 16th Jan 19 34 When handed in at Local Office 16th Jan. 19 34 Port of NAGASAKI.

No. in Reg. Book 40259 Survey held at NAGASAKI. Date, First Survey 9th June 1933 Last Survey 10th Jany. 19 34.

on the Steel Single Screw Motor Vessel "KOYEI MARU". (Number of Visits See Machy.Rpt. 2) Tons Gross 6,774. Net 4,915.

in Sup.

Built at Nagasaki By whom built Mitsubishi Zosen Kaisha, Ltd., Yard No. 550 When built 1934

Engines made at Nagasaki By whom made Mitsubishi Zosen Kaisha, Ld. Engine No. 550 When made 1934

Boilers made at Nagasaki By whom made Mitsubishi Zosen Kaisha, Ltd. Boiler No. 550 When made 1934

Owners Takachiho Shosen Kabushiki Kaisha. Port belonging to Kobe.

VERTICAL DONKEY BOILER.

Made at Nagasaki By whom made Mitsubishi Zosen Kaisha Boiler No. 550 When made 1934 Where fixed Port side, Engine Room.

Manufacturers of Steel Kawasaki Dockyard Co.Ld.

Total Heating Surface of Boiler 18.5 sq.meter. Is forced draught fitted No Coal or Oil fired Oil

No. and Description of Boilers One vertical multitubular. **Working pressure** 120 lbs sq.in.

Tested by hydraulic pressure to 230 lbs/sq.in. Date of test 23rd August 1933. No. of Certificate 155

Area of Firegrate in each Boiler / No. and Description of safety valves to each boiler Twin spring loaded.

Area of each set of valves per boiler { per rule 3.53 sq.in. / as fitted 3.90 sq.in. } Pressure to which they are adjusted 122 lbs Are they fitted with easing gear Yes

State whether steam from main boilers can enter the donkey boiler / Smallest distance between boiler or uptake and bunkers O.F.

Of woodwork 1'-7" Is oil fuel carried in the double bottom under boiler Yes Smallest distance between base of boiler and tank top plating 4'-2½"

Is the base of the boiler insulated Yes Largest internal dia. of boiler 1400 m/m Height 3500 m/m

Shell plates: Material Steel Tensile strength 28 to 32 tons Thickness 10 and 13 m/m

Are the shell plates welded or flanged No Description of riveting: circ. seams { end S.R.L. / inter. S.R.L. } long. seams D.R.L.

Dia. of rivet holes in { circ. seams 20 m/m / long. seams 20 m/m } Pitch of rivets 51.3 m/m, 52.8 m/m, 65.8 m/m, 67.5 m/m Percentage of strength of circ. seams { plate 61 % / rivets 48.8 } of Longitudinal joint { plate 69.6% / rivets 76.5 / combined. }

Working pressure of shell by rules 135 lbs Thickness of butt straps { outer / / inner }

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Dished partial spherical Material Steel

Tensile strength 26 to 30 tons sq.in. Thickness 13 m/m Radius 819 m/m Working pressure by rules 137 lbs/sq.in.

Description of Furnace: Plain, spherical, or dished crown Spherical Material Steel Tensile strength 26 to 30 tons sq.in.

Thickness 13 m/m External diameter { top / bottom / } Length as per rule / Working pressure by rules /

Pitch of support stays circumferentially / and vertically / Are stays fitted with nuts or riveted over /

Diameter of stays over thread / Radius of spherical or dished furnace crown 600 Working pressure by rule 178 lbs

Thickness of Ogee Ring 17 m/m Diameter as per rule { D 1400 m/m / d 1200 m/m } Working pressure by rule 135 lbs

Combustion Chamber: Material / Tensile strength / Thickness of top plate /

Radius if dished / Working pressure by rule / Thickness of back plate / Diameter if circular /

Length as per rule / Pitch of stays / Are stays fitted with nuts or riveted over /

Diameter of stays over thread / Working pressure of back plate by rules /

Tube Plates: Material { front / back Steel } Tensile strength { 26 to 30 ton sq.in / " } Thickness { 17 m/m / 19 m/m } Mean pitch of stay tubes in nests 234x160 m/m

Comprising shell, Dia. as per rule { front 1064 m/m / back 1280 m/m } Pitch in outer vertical rows { 160 m/m / " } Dia. of tube holes FRONT { stay 50.8 m/m / plain " } BACK { stay 56 m/m / plain 52 m/m }

Each alternate tube in outer vertical rows a stay tube Yes Working pressure by rules { front 151.2 lbs/sq.in. / back 122 lbs/sq.in. }

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 rule /

Crown stays: *Material* / *Tensile strength* / *Diameter* { *at body of stay,* / *or over threads* / }

No. of threads per inch / *Area supported by each stay* / *Working pressure by rules* /

Screw stays: *Material* / *Tensile strength* / *Diameter* { *at turned off part,* / *or over threads* / } *No. of threads per inch* /

Area supported by each stay / *Working pressure by rules* / *Are the stays drilled at the outer ends* /

Tubes: *Material* Mild steel *External diameter* { *plain* 50.8 m/m / *stay* " } *Thickness* { 10 L.S.G. / 8 m/m }

No. of threads per inch 9 *Pitch of tubes* 78 x 80 m/m *Working pressure by rules* 215 lbs/sq.in.

Manhole Compensation: *Size of opening in shell plate* Top end. 305 x 405 m/m *Section of compensating ring* / *No. of rivets and diamet*

of rivet holes / *Outer row rivet pitch at ends* / *Depth of flange if manhole flanged* 90 m/m

Uptake: *External diameter* 276 x 456 m/m *Thickness of uptake plate* 13 m/m

Cross Tubes: *No.* / *External diameters* { / } *Thickness of plates* /

Have all the requirements of Sections 14 *to* 23 *inclusive for boilers been complied with* Yes.

The foregoing is a correct description,

NAGASAKI WORKS, MITSUBISHI ZOSEN KAISHA, LTD.

Manufactur

GENERAL MANAGER

Dates of Survey while building { *During progress of work in shops* - - } { *During erection on board vessel* - - } See Machinery Report.

Is the approved plan of boiler forwarded herewith Yes (If not state date of approval.) Kosei Maru

Total No. of visits /

GENERAL REMARKS (*State quality of workmanship, opinions as to class, &c.*)

This Boiler has been constructed under Special Survey in accordance with the requirements of the Ru and Approved plans.

The materials have been tested found efficient and the workmanship throughout is good.

The safety valves were adjusted, as stated above, on the 18th December 1933.

The boiler has been efficiently installed on board and eligible in my opinion to have the notation DBS. 1-34 in Register Book.

Fitted for oil fuel F.P.above 150° F. and Section 18.22 of the Rules complied with.

Survey Fee ... See Machy.rpt. : } When applied for, ... 19.....

Travelling Expenses (if any) £ : : } When received, ... 19.....

A.D.Buchanan/T. Kawashima

Engineer Surveyor to Lloyd's Register of Shipping.

CCC-3,33.

Committee's Minute TUE. 20 FEB 1934

Assigned see J.E.machy.