

## REPORT ON BOILERS.

No. 5051.

Received at London Office

-1 FEB 1926

Date of writing Report *7<sup>th</sup> Nov 1925* When handed in at Local Office *19* Port of *Kobe*

No. in Survey held at *OSAKA* Date, First Survey *14<sup>th</sup> MAY 1918* Last Survey *OCT 30<sup>th</sup> 1925*

Reg. Book. on the *S.S. "ITIYO MARU"* (Number of Visits *SEE MACHY RPT*) Gross *4273.5* Tons Net

Master Built at *OSAKA* By whom built *OSAKA IRON WORKS LTD* When built *1925*

Engines made at *FINSPOONG* By whom made *SVENSKA TURBIN FABRIKS A.B. LUNGSTROM* When made *1918*

Boilers made at *OSAKA* By whom made *OSAKA IRON WORKS LTD* When made *1920*

Registered Horse Power *562 HP* Owners *Do Do* Port belonging to *TAKASAGO*

MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY OR DONKEY~~ *CENTER & PORT* ✓ Manufacturers of Steel *Mitsubishi Steel & Ordnance Co. & Yawata Steel Co.* ✓

(Letter for record *S*) Total Heating Surface of Boilers *4348.6* *2* Is forced draft fitted *YES* ✓ No. and Description of Boilers *2 SE MULTITUBULAR* ✓ Working Pressure *230<sup>lbs</sup>* Tested by hydraulic pressure to *460<sup>lbs</sup>* Date of test *2.10.19. 2309.19.* ✓

No. of Certificate *✓* Can each boiler be worked separately *YES* ✓ Area of fire grate in each boiler *49.5* *✓* No. and Description of safety valves to each boiler *2 SPRING LOADED* ✓ Area of each valve *5.940* *✓* Pressure to which they are adjusted *233<sup>lbs</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 or uptakes and bunkers or woodwork *18"* *✓* Mean dia. of boilers *13'-6"* *✓* Length *12'-0"* *✓*

Material of shell plates *O.H. STEEL* *✓* Thickness *1<sup>3</sup>/<sub>16</sub>* *✓* Range of tensile strength *26.79 MIN.* *✓* Are the shell plates welded or flanged *No* *✓*

Descrip. of riveting: cir. seams *D.R. LAP* *✓* long. seams *T.R.O.B.S.* *✓* Diameter of rivet holes in long. seams *1<sup>7</sup>/<sub>16</sub>* *✓* Pitch of rivets *9<sup>3</sup>/<sub>4</sub>"* *✓*

Lap of plates or width of butt straps *21<sup>1</sup>/<sub>4</sub>"* *✓* Per centages of strength of longitudinal joint *86.2* *✓* Working pressure of shell by rules *233<sup>lbs</sup>* *✓* Size of manhole in shell *21" x 17"* *✓* Size of compensating ring *11" x 1<sup>7</sup>/<sub>16</sub>"* *✓* No. and Description of Furnaces in each boiler *3 BRIGHTON.* *✓*

Description of longitudinal joint *WELD* *✓* No. of strengthening rings *✓* Working pressure of furnace by the rules *265* *✓* Combustion chamber plates: Material *O.H. STEEL* *✓* Thickness: Sides *23<sup>3</sup>/<sub>32</sub>* *✓* Back *11<sup>1</sup>/<sub>16</sub>* *✓* Top *32* *✓* Bottom *8* *✓* Pitch of stays to ditto: Sides *8<sup>1</sup>/<sub>4</sub> x 8<sup>1</sup>/<sub>2</sub>* *✓* Back *8<sup>1</sup>/<sub>4</sub> x 8<sup>1</sup>/<sub>2</sub>* *✓*

Top *8 x 8<sup>3</sup>/<sub>4</sub>* *✓* If stays are fitted with nuts or riveted heads *NUTS.* *✓* Working pressure by rules *240<sup>lbs</sup>* *✓* Material of stays *O.H. STEEL* *✓* Area at smallest part *2'-0"* *✓* Area supported by each stay *72'-20"* *✓* Working pressure by rules *262* *✓* End plates in steam space: Material *O.H. STEEL* *✓* Thickness *1<sup>1</sup>/<sub>32</sub>* *✓*

Pitch of stays *20 x 18<sup>1</sup>/<sub>2</sub>* *✓* How are stays secured *Q.N.R.W.* *✓* Working pressure by rules *250* *✓* Material of stays *O.H. STEEL* *✓* Area at smallest part *10'-120"* *✓*

Area supported by each stay *370* *✓* Working pressure by rules *284* *✓* Material of Front plates at bottom *O.H. STEEL* *✓* Thickness *1<sup>5</sup>/<sub>16</sub>* *✓* Material of Lower back plate *O.H. STEEL* *✓* Thickness *1<sup>5</sup>/<sub>16</sub>* *✓* Greatest pitch of stays *15<sup>1</sup>/<sub>4</sub> x 8<sup>1</sup>/<sub>4</sub>* *✓* Working pressure of plate by rules *240* *✓* Diameter of tubes *3<sup>1</sup>/<sub>4</sub>* *✓*

Pitch of tubes *4<sup>1</sup>/<sub>2</sub> x 4<sup>3</sup>/<sub>8</sub>* *✓* Material of tube plates *O.H. STEEL* *✓* Thickness: Front *1<sup>5</sup>/<sub>16</sub>* *✓* Back *7<sup>7</sup>/<sub>8</sub>* *✓* Mean pitch of stays *8<sup>7</sup>/<sub>8</sub>* *✓* Pitch across wide water spaces *14<sup>1</sup>/<sub>2</sub> WITH 3 O.B.L.R.* *✓* Working pressures by rules *322<sup>lbs</sup>* *✓* Girders to Chamber tops: Material *O.H. STEEL* *✓* Depth and thickness of girder at centre *10<sup>1</sup>/<sub>2</sub> x 1<sup>5</sup>/<sub>16</sub> x 2* *✓* Length as per rule *2'-10<sup>7</sup>/<sub>16</sub>"* *✓* Distance apart *8<sup>3</sup>/<sub>4</sub>"* *✓* Number and pitch of Stays in each *3 @ 8"* *✓*

Working pressure by rules *302<sup>lbs</sup>* *✓* Steam dome: description of joint to shell *✓* % of strength of joint *✓*

Diameter *✓* Thickness of shell plates *✓* Material *✓* Description of longitudinal joint *✓* Diam. of rivet holes *✓*

Pitch of rivets *✓* Working pressure of shell by rules *✓* Crown plates *✓* Thickness *✓* How stayed *✓*

SUPERHEATER. Type *SCHMIDT.* *✓* Date of Approval of Plan *SIMILAR TO ANDES & ALPS MARU* *✓* Tested by Hydraulic Pressure to *690<sup>lbs</sup>* *✓*

Date of Test *29/5/25* *✓* *8/6/25* *✓* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *YES* *✓*

Diameter of Safety Valve *2"* *✓* Pressure to which each is adjusted *235<sup>lbs</sup>* *✓* Is Easing Gear fitted *YES.* *✓*

The foregoing is a correct description,

Manufacturer.

Dates of Survey *work in shops - - -* *As Con: N° 919 FROM MAY 1918 TO NOV. 1919* *✓* Is the approved plan of boiler forwarded herewith *YES.* *✓*

while building *(During erection on board vessel - - -)* *FOR REMAINDER SEE MACHINERY REPORT* *✓* Total No. of visits

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

*These two boilers were constructed according to the Rules & approved plans. The material were tested, found efficient & the workmanship is good. They have now been efficiently installed on board & tested under steam with satisfactory results.*

*These two Boilers were completed in 1919 & were used for a short time during experimental tests with S.T.A.L. Turbine.*

Survey Fee ... £ *SEE MACHY RPT.* *✓* When applied for, ... 19

Travelling Expenses (if any) £ *SEE MACHY RPT.* *✓* When received, ... 19

Committee's Minute

FRI. 5 FEB 1926

Assigned

*See other Rpt*

*H.D. Buchanan & Co.*  
Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register  
Foundation  
W 1320-0222