

REPORT ON BOILERS.

No. 18,303

Received at London Office

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Date of writing Report 192 When handed in at Local Office 192 Port of **SYDNEY, N.S.W.**

No. in Survey held at **SYDNEY, N.S.W.** Date, First Survey **15/10/40** Last Survey **29/5/1941**

18768 on the **S.S. "MAIWARA"** (Number of Visits **5**) Gross **621** Tons Net **331**

Master **Danzig** Built at **Danzig** By whom built **International S.B. & F.C. Ltd** Yard No. **41** When built **1924**

Engines made at **Danzig** By whom made **International S.B. & F.C. Ltd** Engine No. **206** When made **1924**

Boilers made at **Danzig** By whom made **International S.B. & F.C. Ltd** Boiler No. **493** When made **1924**

Nominal Horse Power **55** Owners **Anglo Stry Ltd** Port belonging to **Glasgow**

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

Manufacturers of Steel **Siemens Martin Steel** (Letter for Record **S**)

Total Heating Surface of Boilers **1504** Is forced draught fitted **No** Coal or Oil fired **Coal**

No. and Description of Boilers **One, Multitubular** Working Pressure **185 lbs**

Tested by hydraulic pressure to **✓** Date of test **✓** No. of Certificate **✓** Can each boiler be worked separately **✓**

Area of Firegrate in each Boiler **40.5** No. and Description of safety valves to each boiler **2, Spring loaded**

Area of each set of valves per boiler {per Rule **9.4 sq inches** as fitted **12.5 sq inches** Pressure to which they are adjusted **185 lb** Are they fitted with easing gear **Yes**

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler **No**

Smallest distance between boilers or uptakes and bunkers or woodwork **5"** Is oil fuel carried in the double bottom under boilers **No**

Smallest distance between shell of boiler and tank top plating **15"** Is the bottom of the boiler insulated **Yes**

Largest internal dia. of boilers **132.6"** Length **122.25"** Shell plates: Material **Steel** Tensile strength **28 tons**

Thickness **.91"** Are the shell plates welded or flanged **No** Description of riveting: circ. seams {end **Double** inter. **✓**

Long. seams **Quadruple** Diameter of rivet holes in {circ. seams **1.14"** long. seams **1.14"** Pitch of rivets {**3.58"** **14.56"**

Percentage of strength of circ. end seams {plate **68** rivets **48.07** Percentage of strength of circ. intermediate seam {plate **✓** rivets **✓**

Percentage of strength of longitudinal joint {plate **92** rivets **121.9** combined **95.38** Working pressure of shell by Rules **192.6 lbs**

Thickness of butt straps {outer **.925"** inner **.74"** No. and Description of Furnaces in each Boiler **Two, Corrugated, Morrison type** (True welded scotch joint to flanged tube plate)

Material **Steel** Tensile strength **28 tons** Smallest outside diameter **38.42"**

Length of plain part {top **5.84"** bottom **11.45"** Thickness of plates {crown **.507** bottom **.507** Description of longitudinal joint **✓**

Dimensions of stiffening rings on furnace or c.c. bottom **✓** Working pressure of furnace by Rules **193 lbs**

End plates in steam space: Material **Steel** Tensile strength **22-26 tons** Thickness **1.063"** Pitch of stays **22"**

How are stays secured **Nuts inside & outside through riveted wooden and doubling plate** Working pressure by Rules **346 lbs**

Tube plates: Material {front **Steel** back **Steel** Tensile strength {**22-26 tons** Thickness {front **1.063"** back **.88"**

Lean pitch of stay tubes in nests **11.22"** Pitch across wide water spaces **15.35"** Working pressure {front **233.5 lbs** back **✓**

Orders to combustion chamber tops: Material **Steel** Tensile strength **28 tons** Depth and thickness of girder

centre **6.88"**, **.629"** Length as per Rule **23.62"** Distance apart **7.844"** No. and pitch of stays

each **2**, **7.48"** Working pressure by Rules **211 lbs** Combustion chamber plates: Material **Steel**

Tensile strength **22-26 tons** Thickness: Sides **.62"** Back **.64"** Top **.62"** Bottom **.62"**

Pitch of stays to ditto: Sides **7.08"** Back **7.84"** Top **7.48"** Are stays fitted with nuts or riveted over **Nuts**

Working pressure by Rules **205 lbs** Front plate at bottom: Material **Steel** Tensile strength **22-26 tons**

Thickness **1.063"** Lower back plate: Material **Steel** Tensile strength **22-26 tons** Thickness **1.063"**

Pitch of stays at wide water space **7.69"** Are stays fitted with nuts or riveted over **Nuts**

Working Pressure **340 lbs** Main stays: Material **Steel** Tensile strength **28 tons**

At body of stay, **2 @ 3.26" diam.** No. of threads per inch **11** Area supported by each stay **2 @ 510**

Over threads **4 @ 2.95" diam.** **2 @ 384**

Working pressure by Rules **198, 185, 204 lbs** Screw stays: Material **Steel** Tensile strength **22-26 tons**

At turned off part, **1.35" diam.** No. of threads per inch **11** Area supported by each stay **62**

Over threads **✓**

Working pressure by Rules 204 lb Are the stays drilled at the outer ends ☒ Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part, } 1.85'' \\ \text{or} \\ \text{Over threads } \end{array} \right.$
No. of threads per inch 11 Area supported by each stay 88.5 Working pressure by Rules 234 lb
Tubes: Material Steel External diameter $\left\{ \begin{array}{l} \text{Plain } 3.5'' \\ \text{Stay } 3.5'' \end{array} \right.$ Thickness $\left\{ \begin{array}{l} .1279'' \\ .25'' \text{ to } .30'' \end{array} \right.$ No. of threads per inch 11
Pitch of tubes 4.48 Working pressure by Rules $\frac{7}{16} = 216 \text{ lb}$, $\frac{3}{8} = 190 \text{ lb}$ Manhole compensation: Size of opening in
shell plate 16 $\frac{1}{8}$ x 12 $\frac{3}{16}$ Section of compensating ring 5 $\frac{1}{2}$ x 1 No. of rivets and diameter of rivet holes 36, 1.14 diam
Outer row rivet pitch at ends 3.14 Depth of flange if manhole flanged ☒ Steam Dome: Material Steel
Tensile strength 22-26 Tons Thickness of shell .669 Description of longitudinal joint Single lap joint
Diameter of rivet holes 1.02 Pitch of rivets 2.44 Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate } 58.5 \\ \text{Rivets } 40.25 \end{array} \right.$
Internal diameter 24.55 Working pressure by Rules 185 lb Thickness of crown .78 No. and diameter of
stays ☒ Inner radius of crown 33.26 Working pressure by Rules 200 lb
How connected to shell double zigzag riveted Size of doubling plate under dome ☒ Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell 1.02 diam, 2.95 pitch

Type of Superheater _____ Manufacturers of $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$
Number of elements _____ Material of tubes _____ Internal diameter and thickness of tubes _____
Material of headers _____ Tensile strength _____ Thickness _____ Can the superheater be shut off and
the boiler be worked separately _____ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler _____
Area of each safety valve _____ Are the safety valves fitted with easing gear _____ Working pressure as per
Rules _____ Pressure to which the safety valves are adjusted _____ Hydraulic test pressure
tubes _____, 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 23 inclusive for boilers been complied with _____

The foregoing is a correct description,

Manufacture _____

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - - -} \end{array} \right. \end{array} \right.$ Are the approved plans of boiler and superheater forwarded herewith ☒
(If not state date of approval.)
Total No. of visits 1

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

This vessel's main boiler was built in 1924 by the International S. B. & E. Co. Ltd. Danzig, to the Germanischer Lloyd Class, and now examined internally & externally with mountings & steam pipes, with a view of obtaining the Society's Classification. The sizes as given in plan verified & found correct. The material and workmanship are good, and the boiler is in good condition. All mountings are now in good condition, and the furnaces specially examined, & found in true circle and no evidence of steam or corrosion. The safety valves have been adjusted under steam to 185 lb per sq inch, & steam blowing freely at that pressure, and in my opinion this boiler is eligible for Classification with the Society.

Survey Fee Entered on Rpt 4 £ : : When applied for, 192
Travelling Expenses (if any) £ : : When received, 192

E. L. Cartwright,

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute TUE. 23 SEP 1941

Assigned See Syd. L.C. 18303



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Foundation