

See Glasgow Report No. 4765.

5a.

REPORT ON BOILERS.

No. 82355

Received at London Office 10 FEB 1928

Writing Report 26-1-1928 When handed in at Local Office 31-1-1928 Port of NEWCASTLE-ON-TYNE

Survey held at Hebburn Date, First Survey 30 Sept. Last Survey 24 Jan 1928

on the SS MIRANI (Number of Visits 10.) Gross 739 Tons Net 381

Built at Grangemouth By whom built Grangemouth Dockyard Yard No. 415 When built 1928

made at Glasgow By whom made McKie & Baxter Engine No. 1209 When made 1928

made at Hebburn By whom made Palmets S. & J. Co. Ltd Boiler No. 1087 When made 1928

al Horse Power Owners Burns Philips & Co Port belonging to Sydney, N.S.W.

LITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

facturers of Steel Withowitz Bergbau & Eisenhütten-Gewerkschaft (Letter for Record (S))

Heating Surface of Boilers 1995^{sq} Is forced draught fitted No Coal or Oil fired COAL

nd Description of Boilers 1 SINGLE ENDED Working Pressure 200 LBS.

by hydraulic pressure to 350 LBS Date of test 24.1.28 No. of Certificate 231 Can each boiler be worked separately

of Firegrate in each Boiler No. and Description of safety valves to each boiler

of each set of valves per boiler {per Rule as fitted Pressure to which they are adjusted Are they fitted with easing gear

se of donkey boilers, state whether steam from main boilers can enter the donkey boiler

est distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers

est distance between shell of boiler and tank top plating Is the bottom of the boiler insulated

st internal dia. of boilers 14' 6" Length 10' 6" Shell plates: Material STEEL Tensile strength 28-32 TONS

ness 1 5/16" Are the shell plates welded or flanged No Description of riveting: circ. seams {end D.R.L. inter. 4" 9 5/8" Pitch of rivets { 4" 9 5/8"

seams T.R.-D.B.S. Diameter of rivet holes in {circ. seams 1 5/16" long. seams 1 5/16"

ntage of strength of circ. end seams {plate 67.25% rivets 49.0% Percentage of strength of circ. intermediate seam {plate 85.6% rivets 86.1% combined — Working pressure of shell by Rules 200.4 LBS.

ntage of strength of longitudinal joint {plate 85.6% rivets 86.1% combined — Working pressure of shell by Rules 200.4 LBS.

ness of butt straps {outer 1 1/8" inner 1 1/8" No. and Description of Furnaces in each Boiler 3 MORISON SECTION

rial STEEL Tensile strength 26-30 TONS Smallest outside diameter 3' 6 3/4"

th of plain part {top 10 1/2" bottom 10 1/2" Thickness of plates {crown 5/8" bottom 5/8" Description of longitudinal joint WELD

ensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 213 LBS.

plates in steam space: Material STEEL Tensile strength 26-30 TONS Thickness 1 3/16" Pitch of stays 18 1/2" x 19"

are stays secured DOUBLE NUTS & WASHERS Working pressure by Rules 215 LBS.

e plates: Material {front STEEL Tensile strength 26-30 TONS Thickness 1 3/16" Working pressure {front 442 LBS. back 228 LBS.

n pitch of stay tubes in nests 9.4" Pitch across wide water spaces 14" Working pressure {front 442 LBS. back 228 LBS.

lers to combustion chamber tops: Material STEEL Tensile strength 26-30 TONS Depth and thickness of girder

entre 9" x 1 1/2" Length as per Rule 2' 7 3/4" Distance apart 9" No. and pitch of stays

ach 2 @ 9" Working pressure by Rules 226 LBS. Combustion chamber plates: Material STEEL

side strength 26-30 TONS Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 7/8"

h of stays to ditto: Sides 9" x 9" Back 9" x 9" Top 9" x 9" Are stays fitted with nuts or riveted over NUTS

king pressure by Rules 204 LBS. Front plate at bottom: Material STEEL Tensile strength 26-30 TONS

ckness 1 1/32" Lower back plate: Material STEEL Tensile strength 26-30 TONS Thickness 29/32"

h of stays at wide water space d = 19" Are stays fitted with nuts or riveted over NUTS

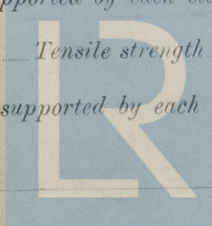
king Pressure 215 LBS. Main stays: Material STEEL Tensile strength 28-32 TONS

meter {At body of stay, 3 1/4" No. of threads per inch 6 Area supported by each stay 346.75"

Over threads — Working pressure by Rules 231 LBS. Screw stays: Material STEEL Tensile strength 26-30 TONS

meter {At turned off part, 1 3/4" No. of threads per inch 9 Area supported by each stay 81"

Over threads —



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Working pressure by Rules **224 LBS** Are the stays drilled at the outer ends **No** Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part, } 1\frac{7}{8}'' \\ \text{or} \\ \text{Over threads} \end{array} \right.$

No. of threads per inch **9** Area supported by each stay **130.5** Working pressure by Rules **221 LBS**

Tubes: Material **IRON** External diameter $\left\{ \begin{array}{l} \text{Plain } 3'' \\ \text{Stay } 3'' \end{array} \right.$ Thickness $\left\{ \begin{array}{l} \text{B.W.G. } 5/16'' \\ \text{or} \\ 5/16'' \end{array} \right.$ No. of threads per inch **9**

Pitch of tubes **4\frac{1}{4} x 4\frac{1}{8}** Working pressure by Rules **250 LBS** Manhole compensation: Size of opening in shell plate **20" x 16"** Section of compensating ring **3' 0" x 2' 8" x 1\frac{5}{16}"** No. of rivets and diameter of rivet holes **32 @ 1\frac{5}{16}"**

Outer row rivet pitch at ends **9\frac{1}{8}"** Depth of flange if manhole flanged **3\frac{1}{2}"** Steam Dome: Material **✓**

Tensile strength **✓** Thickness of shell **✓** Description of longitudinal joint **✓**

Diameter of rivet holes **✓** Pitch of rivets **✓** Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate } \text{✓} \\ \text{Rivets } \text{✓} \end{array} \right.$

Internal diameter **✓** Working pressure by Rules **✓** Thickness of crown **✓** No. and diameter of stays **✓**

How connected to shell **✓** Inner radius of crown **✓** Working pressure by Rules **✓**

Size of doubling plate under dome **✓** Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell **✓**

Type of Superheater **✓** Manufacturers of $\left\{ \begin{array}{l} \text{Tubes } \text{✓} \\ \text{Steel castings } \text{✓} \end{array} \right.$

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 **YES**

For **The foregoing is a correct description,**
Palmers Shipbuilding & Iron Co. Ltd.
A. Cameron per 10/3 Manufacturer.

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - - } 1927 \text{ Sept. 30, Oct. 7, 12, Nov. 22, Dec. 7, 13.} \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - - - } 19. 1928 \text{ Jan. 6, 10, 24.} \end{array} \right. \end{array} \right.$ Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) **Yes.**

Total No. of visits **10.**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **This boiler has been built under Special Survey, the materials and workmanship are good.**

Letter on board the S. S. Mirani - Glasgow Report No. 47865

Survey Fee ... £ **13 : 6 : 0** When applied for, **9 FEB. 1928**
Travelling Expenses (if any) £ : : When received, **Don't 28/3/28**

Thomas Napier
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 1 MAY 1928**

Assigned **See accompanying**
Sketch Report - G.S. No. 47865