

# REPORT ON BOILERS.

No. 13900

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Date of writing Report **5. 12. 1929** When handed in at Local Office **5. 12. 1929** Port of **MIDDLESBROUGH.**

No. in Survey held at **STOCKTON.** Date, First Survey **7 June** Last Survey **4. 12. 1929.**

**489** Sup. on the **se. "GLOFIELD"** (Number of Visits **36**) Gross Tons **4576** Net Tons **2765**

Master Built at **Thornaby on Tees.** By whom built **Craig Taylor & Co.** Yard No. **226** When built **1929**

Engines made at **Stockton** By whom made **Blair & Co (1926) Ltd** Engine No. **1984** When made **1929**

Boilers made at **do.** By whom made **do.** Boiler No. **1984** When made **1929**

Nominal Horse Power Owners **Globe Shipping Co. Ltd** Port belonging to **Cardiff.**

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

Manufacturers of Steel **Dunlop & Co.** (Letter for Record **S.**)

Total Heating Surface of Boilers **7080 sq. ft.** Is forced draught fitted **no.** Coal or Oil fired **coal**

No. and Description of Boilers **3 S.B.** Working Pressure **180 lbs.**

Tested by hydraulic pressure to **320 lbs.** Date of test **16. 10. 29** No. of Certificate **6745** Can each boiler be worked separately **Yes**

Area of Firegrate in each Boiler **48 sq. ft.** No. and Description of safety valves to each boiler **Pair Cockburns J. H. L.**

Area of each set of valves per boiler (per Rule **7.56** as fitted **7.95**) Pressure to which they are adjusted **185 lbs.** Are they fitted with casing gear **Yes.**

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler **Yes**

Smallest distance between boiler uptakes and bunkers **5'-0"** Is oil fuel carried in the double bottom under boilers **no**

Smallest distance between shell of boiler and tank top plating **3'-0"** Is the bottom of the boiler insulated **Yes**

Largest internal dia. of boilers **15'-3 9/16"** Length **11'-0"** Shell plates: Material **Steel** Tensile strength **29/33**

Thickness **1 7/32"** Are the shell plates welded or flanged **no.** Description of riveting: circ. seams **DR** inter. **DR**

Long. seams **T.R.D.B.S. (5 rivets)** Diameter of rivet holes in (circ. seams **1 1/4"** Pitch of rivets **3.67"** as fitted **1 1/4"** **8 3/4"**

Percentage of strength of circ. end seams (plate **65.9** rivets **43.6**) Percentage of strength of circ. intermediate seam (plate **85.7** rivets **85.8** combined **88.5**)

Percentage of strength of longitudinal joint (plate **85.7** rivets **85.8** combined **88.5**) Working pressure of shell by Rules **182 lbs.**

Thickness of butt straps (inter. **1 5/16"** inner **1 1/16"**) No. and Description of Furnaces in each Boiler **3 C.F.**

Material **Steel** Tensile strength **26/30.** Smallest outside diameter **3'-7 1/8"**

Length of plain part (top **9"** bottom **9"**) Thickness of plates (crown **9/16"** bottom **9/16"**) Description of longitudinal joint **Weld**

Dimensions of stiffening rings on furnace or c.c. bottom **Yes** Working pressure of furnace by Rules **189 lbs.**

End plates in steam space: Material **Steel** Tensile strength **26/30.** Thickness **1 7/32"** Pitch of stays **20" x 19 1/2"**

How are stays secured **D.N. & W.** Working pressure by Rules **214 lbs.**

Tube plates: Material (front **Steel** back **Steel**) Tensile strength **26/30.** Thickness (front **1 1/16"** back **1 1/16"**)

Mean pitch of stay tubes in nests **10 27/32"** Pitch across wide water spaces **14 1/2" x 9 3/4"** Working pressure (front **185 lbs.** back **262 "**)

Girders to combustion chamber tops: Material **Steel** Tensile strength **28/32.** Depth and thickness of girder

at centre **8" x 13/16" (double)** Length as per Rule **2'-5"** Distance apart **9 1/2"** No. and pitch of stays

in each **2-9"** Working pressure by Rules **224 lbs.** Combustion chamber plates: Material **Steel**

Tensile strength **26/30.** Thickness: Sides **1 1/16"** Back **1 1/16"** Top **1 1/16"** Bottom **7/8"**

Pitch of stays to ditto: Sides **10 1/4" x 9 3/8"** Back **9 3/8" x 9 3/8"** Top **9" x 9 1/2"** Are stays fitted with nuts or riveted over **nuts**

Working pressure by Rules **188 lbs.** Front plate at bottom: Material **Steel** Tensile strength **26/30.**

Thickness **1 1/16"** Lower back plate: Material **Steel** Tensile strength **26/30** Thickness **1 5/16"**

Pitch of stays at wide water space **14" x 9 3/8"** Are stays fitted with nuts or riveted over **nuts.**

Working Pressure **254 lbs.** Main stays: Material **Steel** Tensile strength **28/32.**

Diameter (At body of stay, **3 1/4"** or Over threads **3 1/4"**) No. of threads per inch **6.** Area supported by each stay **400 sq.**

Working pressure by Rules **201 lbs.** Screw stays: Material **Steel** Tensile strength **26/30.**

Diameter (At turned off part, **1 3/4"** or Over threads **1 3/4"**) No. of threads per inch **8.** Area supported by each stay **85.5 sq.**



Working pressure by Rules **209 lbs.** Are the stays drilled at the outer ends **no**. Margin stays: Diameter <sup>At turned off part,</sup> **1 7/8"** or <sup>Over threads</sup> **1 7/8"**

No. of threads per inch **8**. Area supported by each stay **100.4** Working pressure by Rules **207 lbs.**

Tubes: Material **iron** External diameter <sup>Plain</sup> **3 1/2" to 3 5/8"** Thickness <sup>Stay</sup> **3/16"** No. of threads per inch **9**

Pitch of tubes **4 7/8" x 4 3/4"** Working pressure by Rules **p. 215 lbs. S. 201 lbs.** Manhole compensation: Size of opening in shell plate **16" x 12"** Section of compensating ring **8" x 1 7/32"** No. of rivets and diameter of rivet holes **28 - 1 3/8"**

Outer row rivet pitch at ends **9 1/2"** Depth of flange if manhole flanged  Steam Dome: Material \_\_\_\_\_

Tensile strength \_\_\_\_\_ Thickness of shell \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_

Diameter of rivet holes \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Percentage of strength of joint <sup>Plate</sup> \_\_\_\_\_ <sup>Rivets</sup> \_\_\_\_\_

Internal diameter \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ Thickness of crown \_\_\_\_\_ No. and diameter of stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_

How connected to shell \_\_\_\_\_ 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 <sup>Tubes</sup> \_\_\_\_\_ <sup>Steel castings</sup> \_\_\_\_\_ Internal diameter and thickness of tubes \_\_\_\_\_

Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness \_\_\_\_\_ Can the superheater be shut off and the boiler be worked separately \_\_\_\_\_

Area of each safety valve \_\_\_\_\_ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler \_\_\_\_\_ Working pressure as per Rules \_\_\_\_\_

Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressure: \_\_\_\_\_ tubes \_\_\_\_\_ 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 **Yes**.

The foregoing is a correct description,  
**For BLAIR & CO. (1926) LIMITED.**  
*J. J. Chambers* Manufacturer:  
**SECRETARY.**

Dates of Survey <sup>During progress of work in shops - - -</sup> **See machinery rpt.** Are the approved plans of boiler and superheater forwarded herewith **Yes** (If not state date of approval.)  
<sup>During erection on board vessel - - -</sup>  
 Total No. of visits \_\_\_\_\_

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) **The materials and workmanship are good. These boilers have been built under special survey in accordance with the Rules and Approved Plan, securely fitted aboard and their safety valves adjusted and tested under steam with satisfactory results.**

Survey Fee ... **See Machinery Report** ... When applied for, 192  
 Travelling Expenses (if any) £ ... When received, 192

**P. J. Mac**  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **TUE. 31 DEC 1929** **FRI. 3 JAN 1930**

Assigned **See Machinery Report attached**

