

REPORT ON BOILERS.

No. 13214

Received at London Office 21 FEB 1928

Writing Report 23. 2. 1928. When handed in at Local Office 23. 2. 1928. Port of **MIDDLESBROUGH.**

Survey held at **STOCKTON.** Date, First Survey *see Mch. report.* Last Survey 21. 2. 1928.

Ship the **"LLANOVER"** (Number of Visits *See Mch. Rpt.*) Tons { Gross Net

Built at **Sunderland** By whom built **Barham & Co. Ltd** Yard No. 261 When built 1928.

Engines made at **STOCKTON.** By whom made **Blair & Co (1926) Ltd.** Engine No. 1967 When made 1928.

Boilers made at **do.** By whom made **do.** Boiler No. 1967 When made 1928.

Minimum Horse Power Owners **Anne Thomas S.S. Cola** Port belonging to **London.**

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel **David Colville & Sons** (Letter for Record **S.**)

Total Heating Surface of Boilers **4914 sq. ft.** Is forced draught fitted **no** Coal or Oil fired **coal**

Number and Description of Boilers **3 S.B.** Working Pressure **180 lbs.**

Tested by hydraulic pressure to **320 lbs.** Date of test **3. 8. 27.** No. of Certificate **6564** Can each boiler be worked separately **Yes**

Area of Firegrate in each Boiler **65.6 sq. ft.** No. and Description of safety valves to each boiler **Pair Cocksburns High Lift**

Area of each set of valves per boiler { per Rule **11.27.** as fitted **11.88.** Pressure to which they are adjusted **185 lbs.** 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 **4'-3"** Is oil fuel carried in the double bottom under boilers **no**

Smallest distance between shell of boiler and tank top plating **3'-6"** Is the bottom of the boiler insulated **no**

Largest internal dia. of boilers **15'-9 7/16"** Length **11'-6"** Shell plates: Material **Steel** Tensile strength **28/32**

Thickness **1 9/32"** Are the shell plates welded or flanged **no** Description of riveting: circ. seams { end **D.R.** inter. **✓**

Long. seams **T.R.D.B.S.** Diameter of rivet holes in { circ. seams **1 3/8"** Pitch of rivets { **4 1/4"** long. seams **1 5/16"** **9 5/16"**

Percentage of strength of circ. end seams { plate **67.6** rivets **44.7** Percentage of strength of circ. intermediate seam { plate **✓** rivets **✓**

Percentage of strength of longitudinal joint { plate **85.9** rivets **86.6** Working pressure of shell by Rules **180 lbs.** combined **89.1**

Thickness of butt straps { outer **1"** inner **1 1/8"** No. and Description of Furnaces in each Boiler **3 Corrugated**

Material **Steel** Tensile strength **26/30** Smallest outside diameter **44 5/32"**

Length of plain part { top **✓** bottom **✓** Thickness of plates { crown **37/64"** Description of longitudinal joint **weld** bottom **✓**

Dimensions of stiffening rings on furnace or c.c. bottom **✓** Working pressure of furnace by Rules **190 lbs.**

Head plates in steam space: Material **Steel** Tensile strength **26/30** Thickness **1 3/16"** Pitch of stays **19 1/4" x 20 1/2"**

How are stays secured **D.N.C.W.** Working pressure by Rules **199 lbs.**

Tube plates: Material { front **Steel** back **✓** Tensile strength { **26/30** Thickness { **1 1/16"** **1 3/16"**

Mean pitch of stay tubes in nests **11 3/32"** Pitch across wide water spaces **14 1/2" x 9 3/4"** Working pressure { front **185 lbs.** back **193 lbs.**

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

Centre **8 x 15/16 (double)** Length as per Rule **33 3/4"** Distance apart **9"** No. and pitch of stays

Each **3 - 8 1/2"** Working pressure by Rules **186 lbs.** Combustion chamber plates: Material **Steel**

Tensile strength **26/30** Thickness: Sides **1 1/16"** Back **1 1/16"** Top **1 1/16"** Bottom **1 3/16"**

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

Working pressure by Rules **187 lbs.** Front plate at bottom: Material **Steel** Tensile strength **26/30**

Thickness **1 5/16"** Lower back plate: Material **Steel** Tensile strength **26/30** Thickness **29/32"**

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

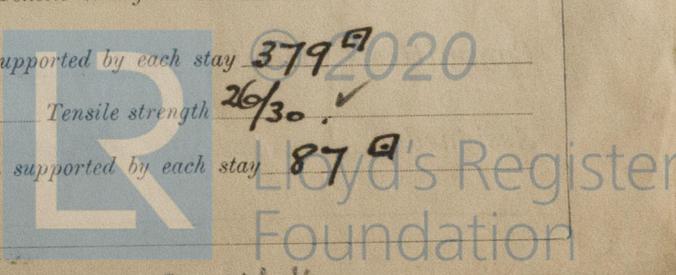
Working Pressure **244 lbs.** Main stays: Material **Steel** Tensile strength **28/32**

Diameter { At body of stay, **3 3/8"** No. of threads per inch **6** Area supported by each stay **379** or Over threads **✓**

Working pressure by Rules **195 lbs.** Screw stays: Material **Steel** Tensile strength **26/30**

Diameter { At turned off part, **1 3/4"** No. of threads per inch **8** Area supported by each stay **87** or Over threads **✓**

W189-0164



Working pressure by Rules 205 lbs. Are the stays drilled at the outer ends no. Margin stays: Diameter { At turned off part, 1 7/8 or Over threads 1 7/8 ✓

No. of threads per inch 8. Area supported by each stay 106 Working pressure by Rules 195 lbs.

Tubes: Material iron External diameter { Plain 3 1/2 Stay 3 1/2 Thickness { 8 W.G. ✓ 5/16 ✓ No. of threads per inch 9. ✓

Pitch of tubes 4 3/4 x 4 7/8 Working pressure by Rules p. 215 S. 201. Manhole compensation: Size of opening

shell plate 16 x 12 Section of compensating ring 8 x 1 9/32 No. of rivets and diameter of rivet holes 28 - 1 5/16 ✓

Outer row rivet pitch at ends 9 5/16 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 { Plate Rivets

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 of rivets in outer row in dome connection to shell

Type of Superheater Manufacturers of { Tubes Steel castings

Number of elements Material of tubes Internal diameter and thickness of tubes

Material of headers Tensile strength Thickness Can the superheater be shut off 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 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 ✓

The foregoing is a correct description,
For BLAIR & CO. (1926) LIMITED.
J. J. Chambers Secretary, Yes

Dates of Survey { During progress of work in shops - - - } See Highy. reports Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes

while building { During erection on board vessel - - - } Total No. of visits ✓

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

These boilers are duplicate of those fitted in ss. "LANBERIS" - Ind. Rpt. No. 13160.

The materials and workmanship are good. These boilers have been built under special survey in accordance with the Rules and Approved Plan and have been securely fitted aboard and their safety valves have been adjusted and tested under steam with satisfactory results.

Survey Fee ... £ See Machinery Rpt. When applied for, ✓ 192

Travelling Expenses (if any) £ ... When received, 192

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

Committee's Minute TUES. 16 MAR. 1928

Assigned See Ind. Rpt. F.E. 13217

