

REPORT ON BOILERS.

No. 13353

5 JUL 1928

Received at London Office

Date of writing Report 4. 7. 1928 When handed in at Local Office 4. 7. 1928 Port of MIDDLESBROUGH

No. in Survey held at STOCKTON Date, First Survey See Navy Dept Last Survey 3. 7. 1928

1684 Sup. on the sc. "LLANFAIR" (Number of Visits) Tons { Gross Net

Master Sunderland Built at Sunderland By whom built Barham & Sons Yard No. 263 When built 1928

Engines made at Stockton By whom made Blair & Co (1926) Ltd. Engine No. 1978 When made 1928

Boilers made at do. By whom made do. Boiler No. 1978 When made 1928

Nominal Horse Power Owners Wimborne S.S. Co. Ltd. Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

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

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

Material and Description of Boilers 3 S.S. Working Pressure 180 lbs.

Tested by hydraulic pressure to 320 lbs. Date of test 18. 5. 28 No. of Certificate 6638 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 Cockburns High lift

Pressure 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 on upstabs 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

Greatest 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.

Seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 1 3/8" long. seams 1 9/16" Pitch of rivets { 4 1/4" 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 combined 89.1 Working pressure of shell by Rules 180 lbs.

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

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

Thickness of plain part { top 3 1/2" bottom 6 1/4" Description of longitudinal joint weld.

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

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

Are stays secured D.N.W. Working pressure by Rules 199 lbs.

Plates: Material { front Steel back Steel Tensile strength { 26/30 Thickness { 1 7/16" 1 3/16"

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.

Stays 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 1/16"

of stays to ditto: Sides 9" x 8 3/4" Back 9 3/4" 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 2 9/32"

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

At body of stay, 3 3/8" No. of threads per inch 6 Area supported by each stay 379 sq. in.

Over threads 1 3/4" Working pressure by Rules 195 lbs. Screw stays: Material Steel Tensile strength 26/30

At turned off part, 1 3/4" No. of threads per inch 8 Area supported by each stay 87 sq. in.



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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 sq Working pressure by Rules 195 lbs.

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

Pitch of tubes 4 3/4" x 4 7/8" Working pressure by Rules p. 215/ S. 201 lbs Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 8" x 1 3/2" No. of rivets and diameter of rivet holes 28 - 1 7/16"

Outer row rivet pitch at ends 9 7/16" 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 pitch 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 and the boiler be worked separately _____

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,
For **BLAIR & CO. (1926) LIMITED.**
[Signature] Manufacturer
SECRETARY.

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

^{while building} ^{board vessel - - -} Report Total No. of visits ✓

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

These boilers are duplicate of Messrs Blair's No 1969 - Unab. Rpt 13290. They 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.

The materials and workmanship are good.

Survey Fee £	<u>See Machinery Report.</u>	When applied for,	192
Travelling Expenses (if any) £		When received,	192

[Signature]
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 10 JUL 1928

Assigned See Sp. Rpt. attached

