

# REPORT ON BOILERS.

No. 98396.

11 MAR 1931

Received at London Office

Date of writing Report

19

When handed in at Local Office 9 MAR. 1931

Port of

LIVERPOOL

No. in Survey held at

Birkenhead

Date, First Survey March 19<sup>th</sup> 1930. Last Survey March 3<sup>rd</sup> 1931.

No. on the

S.S. 'Athelbeach'

(Number of Visits 86.) Gross 6450 Tons Net

Where

Built at Birkenhead By whom built Cammell Laird & Co. Ltd. Yard No. 973 When built 1930

Engines made at

Greenock

By whom made John Kineaid & Co. Ltd. Engine No. 760 When made 1930

Boilers made at

Birkenhead

By whom made Cammell Laird & Co. Ltd. Boiler No. 973 When made 1930

Indicated Horse Power

490

Owners United Indispensables Co. Ltd. Port belonging to Liverpool

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

Manufacturers of Steel David Colville Sons; Earl & Dudley. (Letter for Record S)

Heating Surface of Boilers 1823 sq ft Is forced draught fitted Yes Coal or Oil fired Oil

Description of Boilers One cylindrical multitubular Working Pressure 180 lb sq in

Tested by hydraulic pressure to 320 lb Date of test 9.7.30 No. of Certificate 2366 Can each boiler be worked separately Yes

Number of Firegrate in each Boiler 1 No. and Description of safety valves to each boiler Two spring loaded

Pressure of each set of valves per boiler 79.5 lb 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 Yes

Least distance between boilers or uptakes and bunkers or woodwork 21 in Is oil fuel carried in the double bottom under boilers Yes

Least distance between shell of boiler and tank top plating on 2<sup>nd</sup> deck Is the bottom of the boiler insulated Yes

Least internal dia. of boilers 13'-4 7/8" Length 11'-1" Shell plates: Material steel Tensile strength 28-32 tons sq in

Thickness 1 1/8" Are the shell plates welded or flanged No Description of riveting: circ. seams end DR lap inter.

Seam Double R. Double butts Diameter of rivet holes in circ. seams 1 1/4" Pitch of rivets 3.85" 8 3/8"

Percentage of strength of circ. end seams plate 67.5 rivets 47.85.8 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate rivets 90.4 combined 89.7 Working pressure of shell by Rules 185 lb sq in

Thickness of butt straps outer 7/8" inner 1" No. and Description of Furnaces in each Boiler Three Corrugated

Material steel Tensile strength 26-30 tons sq in Smallest outside diameter 37"

Thickness of plain part top bottom Thickness of plates crown 15/32" bottom Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 182 lb sq in

Stays in steam space: Material steel Tensile strength 26-30 tons sq in Thickness 1 3/32" Pitch of stays 18 1/2" x 18 1/2"

Are stays secured double nuts & plain washers Working pressure by Rules 182 lb sq in

Front plates: Material steel Tensile strength 26-30 tons sq in Thickness 3 1/32" 25/32"

Back plates: Material steel Tensile strength 26-30 Working pressure front 243 lb sq in back 215 lb sq in

Pitch of stay tubes in nests 9 3/4" Pitch across wide water spaces 14" Working pressure front 243 lb sq in back 215 lb sq in

Boilers to combustion chamber tops: Material steel Tensile strength 28-32 tons sq in Depth and thickness of girder

22 9 1/2" x 7 1/8" Length as per Rule 3'-1 9/16" Distance apart 9" No. and pitch of stays

3 0 9" Working pressure by Rules 194 lb sq in Combustion chamber plates: Material steel

Tensile strength 26-30 tons sq in Thickness: Sides 2 1/32" Back 2 1/32" Top 2 1/32" Bottom 1 3/16"

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

Working pressure by Rules 180 lb sq in Front plate at bottom: Material steel Tensile strength 26-30 tons sq in

Thickness 3 1/32" Lower back plate: Material steel Tensile strength 26-30 tons sq in Thickness 1 3/16"

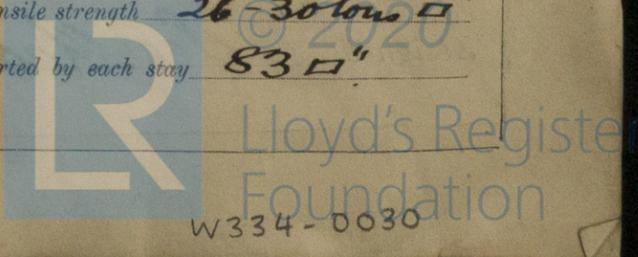
of stays at wide water space 14 3/8" x 9" Are stays fitted with nuts or riveted over nuts

Working Pressure 187 4/5" Main stays: Material steel Tensile strength 28-32 tons sq in

At body of stay, 3" No. of threads per inch 6 Area supported by each stay 342 sq in

Over threads Working pressure by Rules 196 lb sq in Screw stays: Material steel Tensile strength 26-30 tons sq in

At forward part, 1 5/8" No. of threads per inch 9 Area supported by each stay 83 sq in



Working pressure by Rules 180 lb Are the stays drilled at the outer ends no Margin stays: Diameter 1 3/4"  
 No. of threads per inch 9 Area supported by each stay 103 sq" Working pressure by Rules 207 lb  
 Tubes: Material B.B. Iron External diameter 3" Thickness 1/4" No. of threads per inch 9  
 Pitch of tubes 4 9/16" x 4 3/16" Working pressure by Rules 205 lb Manhole compensation: Size of opening in  
 shell plate 21 x 17" Section of compensating ring 9 3/4" x 1 3/16" No. of rivets and diameter of rivet holes 36 @ 1 7/16"  
 Outer row rivet pitch at ends 8 3/4" Depth of flange if manhole flanged 3 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 ✓  
 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 None Manufacturers of ✓  
 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 22 inclusive for boilers been complied with yes  
 The foregoing is a correct description,  
J. W. Laird Manufacturer.

Dates of Survey La Machy report Are the approved plans of boiler and superheater forwarded herewith yes  
 while building SECRETARY  
 (During progress of work in shops - - -)  
 (During erection on board vessel - - -)  
 Total No. of visits ✓

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. Atolland (9679) Lar...

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
This boiler has been constructed under special survey, and is in accordance with the Rules and the approved plan. It has been examined under steam and found satisfactory, and is eligible in my opinion for notation of SB 180 lb in Register book.

Survey Fee £ 12. 0. 0 When applied for, 10 MAR 1931  
 Travelling Expenses (if any) £ When received, 18 3 31

J. W. Milton  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL 10 MAR 1931  
 Assigned See Machinery rpt.

