

# REPORT ON BOILERS.

No. 66613.

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No. in Reg. Book. GLASGOW Date, First Survey 14th Dec 1941 Last Survey 16th Feb. 1943

on the S/S "AIRSPRITE" (Number of Visits 57) Tons Gross Net

Master GLASGOW Built at GLASGOW By whom built BLYTHS WOODS B. CO. LD. Yard No. 72 When built 1943

Engines made at GLASGOW By whom made DAVID ROWAN & CO. LD. Engine No. 1101 When made 1943

Boilers made at -Do- By whom made -Do- Boiler No. 1101 When made 1943

Nominal Horse Power 162 Owners THE ADMIRALTY Port belonging to LONDON

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

Manufacturers of Steel Steel Company of Scotland Ltd. (Letter for Record S)

Total Heating Surface of Boilers 2624 Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers 2 single-ended Working Pressure 190 lb.

Tested by hydraulic pressure to 335 lb. Date of test 27-6-42 No. of Certificate 21109 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2" I.H.L. safety

Area of each set of valves per boiler per Rule 4" as fitted 6.280" Pressure to which they are adjusted 190 lb. 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 - Is oil fuel carried in the double bottom under boilers -

Smallest distance between shell of boiler and tank top plating - Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 11'-0" Length 11'-6" Shell plates: Material S Tensile strength 29/33 tons

Thickness 15/16" Are the shell plates welded or flanged No Description of riveting: circ. seams end double inner 2.78"

long. seams DBS TR Diameter of rivet holes in circ. seams 1 1/16" long. seams 1" Pitch of rivets 7/4"

Percentage of strength of circ. end seams plate 61.8 rivets 53.9 Percentage of strength of circ. intermediate seam plate 86.2 rivets 86

Percentage of strength of longitudinal joint plate 86.2 rivets 86 combined 89.5 Working pressure of shell by Rules -

Thickness of butt straps outer 23/32" inner 27/32" No. and Description of Furnaces in each Boiler 2 lighter

Material S Tensile strength 26/30 tons Smallest outside diameter 38 1/32"

Length of plain part top - bottom - Thickness of plates crown 33/64" bottom 33/64" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.e. bottom - Working pressure of furnace by Rules -

End plates in steam space: Material S Tensile strength 26/30 tons Thickness 15/16" Pitch of stays 15" x 14"

How are stays secured DN Working pressure by Rules -

Tube plates: Material front S back S Tensile strength 26/30 tons Thickness 15/16" 3/4"

Mean pitch of stay tubes in nests 9.87" Pitch across wide water spaces 13 3/4" Working pressure front 15/16" back 3/4"

Girders to combustion chamber tops: Material S Tensile strength 28/32 tons Depth and thickness of girder -

at centre 2 @ 6 1/2" x 7/8" Length as per Rule 28 9/16" Distance apart 8 1/2" No. and pitch of stays -

in each 2 @ 9 1/4" Working pressure by Rules - Combustion chamber plates: Material S

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

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

Working pressure by Rules - Front plate at bottom: Material S Tensile strength 26/30 tons

Thickness 15/16" Lower back plate: Material S Tensile strength 26/30 tons Thickness 15/16"

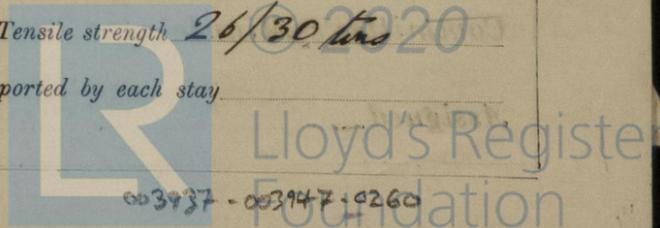
Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over Nuts

Working Pressure - Main stays: Material S Tensile strength 28/32 tons

Diameter At body of stay, 2 1/4" or Over threads - No. of threads per inch 6 Area supported by each stay -

Working pressure by Rules - Screw stays: Material S Tensile strength 26/30 tons

Diameter At turned off part, 1 5/8" or Over threads - No. of threads per inch 9 Area supported by each stay -



Working pressure by Rules \_\_\_\_\_ Are the stays drilled at the outer ends NO Margin stays: Diameter <sup>At turned off part.</sup> 1 3/4"  
 No. of threads per inch 9 Area supported by each stay \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_  
 Tubes: Material Iron External diameter <sup>Plain</sup> 2 3/4" <sup>Stay</sup> 2 3/4" Thickness 5/16" + 3/8" No. of threads per inch 9  
 Pitch of tubes 4" x 3 7/8" Working pressure by Rules \_\_\_\_\_ Manhole compensation: Size of opening in  
 shell plate 19 1/2" x 15 1/2" Section of compensating ring 6 1/4" x 15 1/16" No. of rivets and diameter of rivet holes 36 @ 1 1/8"  
 Outer row rivet pitch at ends 7 1/4" Depth of flange if manhole flanged 3" 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 forgings.</sup> \_\_\_\_\_  
<sup>Steel castings</sup> \_\_\_\_\_  
 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 \_\_\_\_\_ forgings and 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,  
 For David Rowan & Co. Ltd. Manufacturer.  
Arch. N. Grierson

Dates of Survey <sup>During progress of</sup> \_\_\_\_\_ Are the approved plans of boiler and superheater forwarded herewith Yes  
<sup>work in shops - -</sup> \_\_\_\_\_  
<sup>while</sup> <sup>During erection on</sup> \_\_\_\_\_  
<sup>building</sup> <sup>board vessel - - -</sup> See accompanying machinery report Total No. of visits \_\_\_\_\_

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. "NASPRITE" G.S. No. 63500

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
These boilers have been built under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. They have been satisfactorily installed in the vessel and the safety valves have been adjusted to the working pressure.

6th  
22/2/43

Survey Fee ... .. £ \_\_\_\_\_ When applied for, 19  
 Travelling Expenses (if any) £ See mach report : \_\_\_\_\_ When received, 19

A. J. Brown  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 23 FEB 1943  
 Assigned SEE ACCOMPANYING MACHINERY REPORT.

