

# REPORT ON BOILERS.

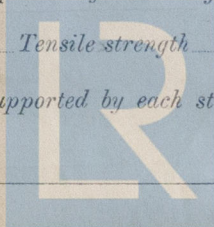
No. 19150

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Date of writing Report 28.12.29 When handed in at Local Office 30th Jan 1930 Port of Greenock  
 No. in Survey held at Greenock Date, First Survey 1st August 1929 Last Survey 30th Jan 1930  
 of Book. S/S "Antiope" (Number of Visits ✓) Tons { Gross ✓ Net ✓  
 on the Greenock  
 Built at Greenock By whom built Halker Miller & Co Yard No. 271 When built 1930  
 Engines made at Greenock By whom made John & Duncan & Co Engine No. 665 When made 1930  
 Boilers made at ditto By whom made ditto Boiler No. 665 When made 1930  
 Nominal Horse Power — Owners New Egypt & Levant Shipping Co Port belonging to London

## MULTITUBULAR BOILERS—MAIN,

Manufacturers of Steel Scottish & Steel Darnley Long & Balville (Letter for Record S)  
 Total Heating Surface of Boilers 6999 sq ft Is forced draught fitted No Coal Oil fired Coal  
 No. and Description of Boilers 3 Single ended Working Pressure 180  
12.12.29 Port. 1914 (P)  
 Tested by hydraulic pressure to 320 Date of test 14.12.29 No. of Certificate 1915 (C.S.) Can each boiler be worked separately Yes  
 Area of Firegrate in each Boiler 61.84 sq ft No. and Description of safety valves to each boiler Double Spring  
 Area of each set of valves per boiler { per boiler 4.45 sq ft as fitted 8.29 sq ft Pressure to which they are adjusted 185 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 5-6" Is oil fuel carried in the double bottom under boilers No  
 Smallest distance between shell of boiler and tank top plating 2-1" Is the bottom of the boiler insulated No  
 Largest internal dia. of boilers 15-3 1/2" Length 11-6" Shell plates: Material S Tensile strength 28-32  
 Thickness 1 1/4" Are the shell plates welded or flanged ✓ Description of riveting: circ. seams { end DR inter. ✓  
 Long. seams TR & DBS Diameter of rivet holes in { circ. seams 1 5/16" Pitch of rivets { 3.94 long. seams 1.9 1/32" 9 1/8"  
 Percentage of strength of circ. end seams { plate 66.4 rivets 45.1 Percentage of strength of circ. intermediate seam { plate 85.9 rivets 87.1  
 Percentage of strength of longitudinal joint { plate 87.1 rivets 89.2 combined 89.2 Working pressure of shell by Rules 181  
 Thickness of butt straps { outer 1 5/16" inner 1 1/16" No. and Description of Furnaces in each Boiler 3 Deighton's 3 c.  
 Material S Tensile strength 26-30 Smallest outside diameter 3-10 3/16"  
 Length of plain part { top ✓ bottom ✓ Thickness of plates { crown 19 1/32" bottom ✓ Description of longitudinal joint weld  
 Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 184  
 End plates in steam space: Material S Tensile strength 26-30 Thickness 19 1/32" Pitch of stays 23" x 20 1/2"  
 How are stays secured DN Washers Working pressure by Rules 184  
 End plates: Material { front S back S Tensile strength { 26-30 Thickness { 13 1/16"  
 Can pitch of stay tubes in nests 11-18" Pitch across wide water spaces 14" Working pressure { front 182 back 210  
 Orders to combustion chamber tops: Material S Tensile strength 28-32 Depth and thickness of girder  
 centre 10 3/4" x 3 1/4" (2) Length as per Rule 39.52 Distance apart 9" No. and pitch of stays  
 each 3 at 9 1/16" Working pressure by Rules 186 Combustion chamber plates: Material S  
 Tensile strength 26-30 Thickness: Sides 1 1/16" Back 43/64" Top 1 1/16" Bottom 1 1/8"  
 Pitch of stays to ditto: Sides 8 1/2" x 9 1/16" Back 10 5/8" x 7 7/8" Top 9 1/16" x 9" Are stays fitted with nuts or riveted over Nuts  
 Working pressure by Rules 184 Front plate at bottom: Material S Tensile strength 26-30  
 Thickness 1" Lower back plate: Material S Tensile strength 26-30 Thickness 27/32"  
 Pitch of stays at wide water space 13 5/8" Are stays fitted with nuts or riveted over Nuts  
 Working Pressure 222 Main stays: Material S Tensile strength 26-30  
 At body of stay, 33/8" No. of threads per inch 6 Area supported by each stay 471.5 sq in  
 Over threads ✓ Working pressure by Rules 193 Screw stays: Material S Tensile strength 26-30  
 At turned off part, 1 5/8" No. of threads per inch 9 Area supported by each stay 83.6 sq in  
 Over threads ✓





Working pressure by Rules 182 Are the stays drilled at the outer ends 90 Margin stays: Diameter { At turned off part, 13 1/4" & 2 1/8" or Over threads }  
No. of threads per inch 9 Area supported by each stay 94.54" Working pressure by Rules 190  
Tubes: Material Iron External diameter { Plain } 3 1/4" Thickness { 9 WG } 5/16" No. of threads per inch 9  
Pitch of tubes 47/16 + 4 1/2" Working pressure by Rules 191 Manhole compensation: Size of opening in shell plate 16 1/2" x 20 1/2" Section of compensating ring 2.1175 x 2.6784 / 5/16" No. of rivets and diameter of rivet holes 38 at 1 1/2"  
Outer row rivet pitch at ends 9 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 { 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  
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

The foregoing is a correct description,  
For John G. Kincaid & Co. Ltd.  
Director, Manufacturer.

Dates of Survey { During progress of work in shops - - }  
while building { During erection on board vessel - - - }  
SEE MACHINERY REPORT  
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes  
Total No. of visits

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. S/S 'Antigone' Sept 1887

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
These Boilers have been built under Special Survey in accordance with the approved plans & the workmanship & material are of good quality, they are now securely fitted  
This Report accompanies Trial of the Machinery

Survey Fee £ Charged on Machinery Report When applied for, 19  
Travelling Exp. £ When received, 19

Wm Gordon-Mitchell  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 4 FEB 1930

Assigned See accompanying Machy. Report.