

Rpt. 5a.

## REPORT ON BOILERS.

No. 19304

51480

Received at London Office

18 MAR 1931

13 MAY 1931

Date of writing Report 28.2.31

When handed in at Local Office 10<sup>th</sup> MARCH 1931

Port of Greenock

No. in Reg. Book. Survey held at Greenock

Date, First Survey 1<sup>st</sup> DECEMBER 1930 Last Survey 6<sup>th</sup> MARCH 1931

on the S S GUINNESS

(Number of Visits 21)

Tons { Gross 1151  
Net 556

Master Built at Troon By whom built Aitka Shipbuilding Co. Ltd. When built 1931  
Engines made at Troon By whom made Aitka Shipbuilding Co. Ltd. Engine No. 152 When made 1931  
Boilers made at Greenock By whom made John & Kincaid Co. Ltd. Boiler No. 202 When made 1931  
Nominal Horse Power 194 Owners A. Guinness Son & Co. Ltd Port belonging to London

## MULTITUBULAR BOILERS—MAIN,

Manufacturers of Steel Appleby Iron Co. Dorman Long, Lancaster & Co. (Letter for Record S)  
Total Heating Surface of Boilers 5710 # Is forced draught fitted No Coal fired Coal  
No. and Description of Boilers 2 Single Ended Working Pressure 200  
Tested by hydraulic pressure to 350 Date of test 6.3.31 No. of Certificate 2004 Can each boiler be worked separately  
Area of Firegrate in each Boiler 56.5 # No. and Description of safety valves to each boiler  
Area of each set of valves per boiler { per Rule as fitted Pressure to which they are adjusted Are they fitted with easing gear  
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  
Largest internal dia. of boilers 13'-9" Length 11'-0" Shell plates: Material S Tensile strength 29-33  
Thickness 17/32" Are the shell plates welded or flanged Description of riveting: circ. seams { end DR inter.  
long. seams T.R.D.B.S Diameter of rivet holes in { circ. seams 19/32" long. seams 17/32" Pitch of rivets { 3.839 8 5/16  
Percentage of strength of circ. end seams { plate 66.6 rivets 43.73 Percentage of strength of circ. intermediate seam { plate 85.33 rivets  
Percentage of strength of longitudinal joint { plate 85.9 rivets 84.8 Working pressure of shell by Rules 202  
Thickness of butt straps { outer 15/16" inner 11/16" No. and Description of Furnaces in each Boiler 3 Draughtons  
Material S Tensile strength 26-30 Smallest outside diameter 3'-6 3/16"  
Length of plain part { top bottom Thickness of plates { crown bottom 19/32" Description of longitudinal joint weld  
Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 205  
End plates in steam space: Material S Tensile strength 26-30 Thickness 17/32" Pitch of stays 18 1/4" 16 1/2"  
How are stays secured DN Working pressure by Rules 204  
Tube plates: Material { front S back S Tensile strength { 26-30 Thickness { 15/16" 25/32"  
Mean pitch of stay tubes in nests 10.375" Pitch across wide water spaces 14 3/4" Working pressure { front 271 back 203  
Girders to combustion chamber tops: Material S Tensile strength 29.33 Depth and thickness of girder at centre 10' 4 3/4" (2) Length as per Rule 2'-8 7/32" Distance apart 10 7/8" No. and pitch of stays in each 3 at 4 3/4" Working pressure by Rules 214 Combustion chamber plates: Material S  
Tensile strength 26.30 Thickness: Sides 23/32" Back 11/16" Top 23/32" Bottom 23/32"  
Pitch of stays to ditto: Sides 10 1/2" 15/16" Back 8 3/4" 8 1/16" Top 10 7/8" 7 3/4" Are stays fitted with nuts or riveted over nuts  
Working pressure by Rules 209 Front plate at bottom: Material S Tensile strength 26-30  
Thickness 15/16" Lower back plate: Material S Tensile strength 26-30 Thickness 27/32"  
Pitch of stays at wide water space 14 1/2" Are stays fitted with nuts or riveted over nuts  
Working Pressure 208 Main stays: Material S Tensile strength 28-32  
Diameter { At body of stay, or Over threads 3" No. of threads per inch 6 Area supported by each stay 334.15  
Working pressure by Rules 215 Screw stays: Material S Tensile strength 26-30  
Diameter { At turned off part, or Over threads 1 5/8" No. of threads per inch 6 Area supported by each stay 77

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Working pressure by Rules 200 Are the stays drilled at the outer ends 90 Margin stays: Diameter 17/8" 2"  
 No. of threads per inch 6 Area supported by each stay 101.2" Working pressure by Rules 210  
 Tubes: Material Iron External diameter 3 1/4" Thickness 3/8" No. of threads per inch 9  
 Pitch of tubes 4 3/8" x 4 1/2" Working pressure by Rules 209 Manhole compensation: Size of opening in  
 shell plate 16 1/2" x 20 1/2" Section of compensating ring 2 11 3/4" x 2 11 3/4" x 1 1/2" No. of rivets and diameter of rivet holes 36 at 1 3/8"  
 Outer row rivet pitch at ends 9 13/16" Depth of flange if manhole flanged 4" 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 200 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 —  
 Number of elements — Material of tubes — Steel castings —  
 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. LIMITED.  
 Director. Manufacturer.

Dates of Survey During progress of work in shops - - - (1930) Dec. 4, 8, 9, 14, 19, 20, (1931) Jan. 9, 12, 14, 19, 21, 26, 28 Are the approved plans of boiler — forwarded herewith Yes  
 while building During erection on board vessel - - - Feb. 3, 5, 12, 17, 19, 23, 27, Mar. 6 (If not state date of approval.)  
 Total No. of visits 21

Is this Boiler a duplicate of a previous case — If so, state Vessel's name and Report No. —

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. These Boilers have been shipped to Troon at which port they will be fitted on board.

Checked from  
 Cal. Sheet — no plan  
 C.B.

Survey Fee £ 24. 14. - When applied for, 9<sup>th</sup> MARCH 1931  
 Travelling Expenses (if any) £ - : - : - When received, 11<sup>th</sup> MARCH 1931

W. J. L. London-McCline  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 17 MAR 1931

Assigned TRANSMIT TO LONDON

W. J. L. + L.M.C. 5.31 on  
 Gen. Rpt. 51480.

