

# REPORT ON BOILERS.

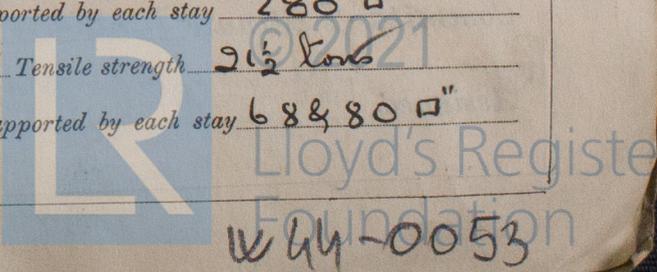
No. 54332

Received at London Office 28 MAR 1934

When handed in at Local Office 22.3.1934 Port of Glasgow  
 Survey held at Glasgow Date, First Survey 11.7.33 Last Survey 20-3-1934  
 on the new steel S/S "HARTLEBURY" (Number of Visits 91) Gross 5082 Tons Net 3036  
 Built at Port Glasgow By whom built Lithgows Ltd Yard No. 865 When built 1934  
 made at Glasgow By whom made David Rowan & Co Ltd Engine No. 962 When made 1934  
 made at Glasgow By whom made David Rowan & Co Ltd Boiler No. 962 When made 1934  
 Horse Power 431 Owners J & C Harrison (Ings) Port belonging to London

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

Manufacturers of Steel Lithgows Ltd (Letter for Record (r) ✓)  
 Heating Surface of Boilers 1706 sq ft Is forced draught fitted yes Coal or Oil fired coal  
 Description of Boilers one single ended Working Pressure 220  
 hydraulic pressure to 380 Date of test 16.11.33 No. of Certificate 19305 Can each boiler be worked separately ✓  
 Firegrate in each Boiler 48 sq ft No. and Description of safety valves to each boiler Two Improved High Lift.  
 each set of valves per boiler {per Rule 4.5370" as fitted 4.800"} Pressure to which they are adjusted 225 Are they fitted with easing gear yes  
 of donkey boilers, state whether steam from main boilers can enter the donkey boiler -  
 distance between boilers or uptakes and bunkers or woodwork 2'0" Is oil fuel carried in the double bottom under boilers no  
 distance between shell of boiler and tank top plating 2'6" Is the bottom of the boiler insulated yes  
 internal dia. of boilers 13'0" Length 11'6" Shell plates: Material steel Tensile strength 29-33 tons  
 thickness 1/4" Are the shell plates welded or flanged no Description of riveting: circ. seams {end NTR inter. - }  
 Diameter of rivet holes in {circ. seams F13/16 B15/16 } Pitch of rivets {F3.21" B3.58" }  
 {long. seams 15/16 } {9" }  
 Percentage of strength of circ. end seams {plate F63 B63.3 rivets F43.7 B41.9 } Percentage of strength of circ. intermediate seam {plate - rivets - }  
 Working pressure of shell by Rules 222  
 Working pressure of longitudinal joint {plate 85.4 rivets 90.7 combined 88.9 }  
 No. and Description of Furnaces in each Boiler Three Heighston 3 of steel  
 Tensile strength 26-30 tons Smallest outside diameter 36.218"  
 Thickness of plates {crown 39" bottom 64" } Description of longitudinal joint welded  
 Working pressure of furnace by Rules 245  
 Material steel Tensile strength 26-30 tons Thickness 15/32" Pitch of stays 18" x 15 1/2"  
 Working pressure by Rules 220  
 Material {front steel back - } Tensile strength {26-30 tons - } Thickness {15/16" 25/32" }  
 Pitch of stay tubes in nests 9 1/2" Pitch across wide water spaces 14" Working pressure {front 229 back 242 }  
 to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder  
 Length as per Rule 31.56" Distance apart 8" No. and pitch of stays  
 Working pressure by Rules 221 Combustion chamber plates: Material steel  
 Thickness: Sides 23/32" Back 21/32" Top 23/32" Bottom 23/32"  
 Are stays fitted with nuts or riveted over nuts  
 Front plate at bottom: Material steel Tensile strength 26-30 tons  
 Lower back plate: Material steel Tensile strength 26-30 tons Thickness 13/16"  
 Are stays fitted with nuts or riveted over nuts  
 Main stays: Material steel Tensile strength 28-32 tons  
 Area supported by each stay 280 sq in  
 Screw stays: Material Iron Tensile strength 21 1/2 tons  
 Area supported by each stay 68 & 80 sq in



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Working pressure by Rules 266 & 266 Are the stays drilled at the outer ends no Margin stays: Diameter <sup>At turned off part,</sup> 1 7/8 or <sup>Over threads</sup> 1 7/8  
 No. of threads per inch 9 Area supported by each stay 83.0 Working pressure by Rules 257  
 Tubes: Material Iron External diameter <sup>Plain</sup> 3" <sup>Stay</sup> 3" Thickness <sup>8 W.G.</sup> 1/4" <sup>5/16"</sup> <sup>3/8"</sup> <sup>7/16"</sup> No. of threads per inch 9  
 Pitch of tubes 4 3/16" x 4/8" Working pressure by Rules 250 Manhole compensation: Size of shell plate 19 1/2" x 15 1/2" Section of compensating ring 9 1/2" x 1 1/4" No. of rivets and diameter of rivet holes 34 @ 1 5/16"  
 Outer row rivet pitch at ends 9" Depth of flange if manhole flanged 3" Steam Dome: Material none  
 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 stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_  
 How connected to shell \_\_\_\_\_ Size of doubling plate under dome \_\_\_\_\_ Diameter of rivet holes of rivets in outer row in dome connection to shell \_\_\_\_\_

Type of Superheater none Manufacturers of <sup>Tubes</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 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 \_\_\_\_\_ Rules \_\_\_\_\_ Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test \_\_\_\_\_ tubes \_\_\_\_\_, castings \_\_\_\_\_ and after assembly in place \_\_\_\_\_ Are drain cocks or \_\_\_\_\_ 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.  
 Arch. H. Grierson

Dates of Survey <sup>During progress of work in shops - - -</sup> \_\_\_\_\_ Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
<sup>while building</sup> <sup>During erection on board vessel - - -</sup> **SEE ACCOMPANYING MACHINERY REPORT.** Total No. of visits 91

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. Harpassa Gls. Rpt. N

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
The materials and workmanship are good.  
The boiler has been constructed under special survey, satisfactorily fitted vessel and its safety valves adjusted under steam.

22/3/34

Survey Fee ... .. £ See Machinery Rules : : } When applied for, 19  
 Travelling Expenses (if any) £ : : } When received, 19

S. C. Davis  
 Engineer Surveyor to Lloyd's Register of

Committee's Minute GLASGOW 27 MAR 1934  
 Assigned SEE ACCOMPANYING MACHINERY REPORT

