

# REPORT ON BOILERS.

No. 42684.

Received at London Office WED. MAY. 16 1923

Date of writing Report 11:15:19 1923 When handed in at Local Office Glasgow Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 20th March Last Survey 17th April 1923

on the SS "INVERCORRIE" (New. E & B) (Number of Visits 7) Tons {Gross 2000 Net 1800}

Master W. Hartlepool Built at W. Gray & Co. Ltd. By whom built W. Gray & Co. Ltd. Yard No. 1918-5 When built

Engines made at Glasgow By whom made W. Kie & Baxter Engine No. 1923 When made

Boilers made at Glasgow By whom made Messrs W. Henderson & Co. Ltd. Boiler No. 841 When made 1923

Indicated Horse Power 104 Owners W. Henderson & Co. Ltd. Port belonging to Glasgow

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

Manufacturers of Steel Messrs D. Colville & Son, Ltd. (Letter for Record S)

Total Heating Surface of Boilers 1603.32 Is forced draught fitted No Coal or Oil fired Oil

No. and Description of Boilers Two Return Tube, Single ended. Working Pressure 180

Tested by hydraulic pressure to 320 Date of test 14-4-23 No. of Certificate 16233 Can each boiler be worked separately No

Area of Firegrate in each Boiler 30.25 No. and Description of safety valves to each boiler None

Area of each set of valves per boiler {per Rule None as fitted None} Pressure to which they are adjusted None Are they fitted with easing gear No

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No

Smallest distance between boilers or uptakes and bunkers or woodwork None Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating None Is the bottom of the boiler insulated No

Largest internal dia. of boilers 9'-6" Length 10'-5 7/8" Shell plates: Material S Tensile strength 28/32

Thickness 1 3/16 Are the shell plates welded or flanged No Description of riveting: circ. seams {end D.H. inter None}  
 Long. seams T.R.D.B.S. Diameter of rivet holes in {circ. seams 1 5/16 long. seams 1 5/16} Pitch of rivets {6"

Percentage of strength of circ. end seams {plate 64.28 rivets 53.2} Percentage of strength of circ. intermediate seam {plate 84.37 rivets 87.2 combined 90.55} Working pressure of shell by Rules 181

Thickness of butt straps {outer 5/8 inner 3/4} No. and Description of Furnaces in each Boiler Two Deighton

Material S Tensile strength 26/30 Smallest outside diameter 2'-9 1/8"

Length of plain part {top None bottom None} Thickness of plates {crown 1/16 bottom None} Description of longitudinal joint Weld.

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 184

End plates in steam space: Material S Tensile strength 26/30 Thickness 1 5/16 Pitch of stays 13" x 16"

How are stays secured Double nuts Working pressure by Rules 190

Tube plates: Material {front S back S} Tensile strength {26/30} Thickness {1 5/16 19/32}

Lean pitch of stay tubes in nests 8 1/2" x 8" Pitch across wide water spaces 13 1/2" Working pressure {front 215 back 182}

Orders to combustion chamber tops: Material S Tensile strength 28/32 Depth and thickness of girder None

Centre 2. 4 1/2" x 3/4" Length as per Rule 2'-5 1/8" Distance apart 9" No. and pitch of stays None

each 2. 4 3/4" Working pressure by Rules 180 Combustion chamber plates: Material S

Tensile strength 26/30 Thickness: Sides 5/8 Back 19/32 Top 5/8 Bottom 5/8

Pitch of stays to ditto: Sides 4 3/4" x 9" Back 4 3/4" x 8 1/2" Top 4 3/4" x 9" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 180 Front plate at bottom: Material S Tensile strength 26/30

Thickness 1 5/16 Lower back plate: Material S Tensile strength 26/30 Thickness 1 5/16

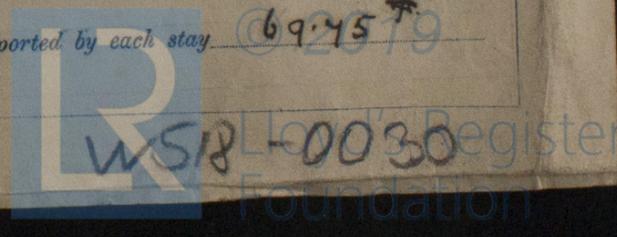
Pitch of stays at wide water space 13 3/4" Are stays fitted with nuts or riveted over nuts

Working Pressure 183 Main stays: Material S Tensile strength 28/32

Diameter {At body of stay 2 3/8 or 2 1/4 Over threads 2 1/2} No. of threads per inch 6 Area supported by each stay 208

Working pressure by Rules 190 Screw stays: Material S Tensile strength 26/30

Diameter {At turned off part MARGINAL 1 1/8 INNER 1 1/2 Over threads 1 1/8} No. of threads per inch 10 Area supported by each stay 69.45



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Working pressure by Rules: 190 Are the stays drilled at the outer ends No Margin stays: Diameter 1 1/8"  
 No. of threads per inch 10 Area supported by each stay 91.345 Working pressure by Rules 233  
 Tubes: Material Wrought Iron External diameter 3" Thickness 9.5 w.g. No. of threads per inch 9  
 Pitch of tubes 4 1/4" x 4" Working pressure by Rules 190 Manhole compensation: Size of opening in  
 end plate 15" x 11" Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓  
 Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 3 1/4" 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 ✓ 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 23 inclusive for boilers been complied with No. Mountings not fitted.

The foregoing is a correct description,  
 FOR DAVID & WILKINSON & CO., LTD.  
J. H. Paterson Director

Dates of Survey 2615 attached  
 During progress of work in shops -- 1923: Mar 30, Apr 6, 14, 16, 17  
 while building During erection on board vessel --  
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval) ✓  
 Total No. of visits 7

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)  
 The boilers have been built under special survey in accordance with the approved plans.  
 The materials and workmanship are good.  
 These boilers to be fitted on board at Glasgow.

Survey Fee ... .. £ 10 : 14 : 0  
 Travelling Expenses (if any) £ - : - : -  
 When applied for 15757  
 When received 1923

J. H. Paterson  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 15 MAY 1923

Assigned TRANSMIT TO LONDON

