

## REPORT ON BOILERS.

No. 42684.

Received at London Office WED. MAY. 16 1923

Date of writing Report 1923 When handed in at Local Office 11.5.23 Port of Glasgow

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

Leg. Book. SS "INVERCORRIE" (New. E & B). (Number of Visits 7) Tons { Gross Net

on the

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

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

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

Indicated Horse Power 104. Owners Port belonging to

## 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  $\text{sq. ft.}$  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

Area of Firegrate in each Boiler 30.25  $\text{sq. ft.}$  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 9'-6" Length 10'-5 1/8" 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.L. inter 2 5/8" 6" Pitch of rivets {

Long. seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 1 5/16" long. seams 1 5/16" Percentage of strength of circ. intermediate seam { plate rivets

Percentage of strength of circ. end seams { plate rivets 64.28 53.2 Percentage of strength of longitudinal joint { plate rivets 84.34 87.2 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 Beighton

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

Length of plain part { top bottom Thickness of plates { crown 1/16" 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 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" 1 9/32

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

centre 2. 4 1/2" x 3/4" Length as per Rule 2'-5 1/8" Distance apart 9" No. and pitch of stays

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

Tensile strength 26/30 Thickness: Sides 5/8" Back 1 9/32" 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" 2 1/4" No. of threads per inch 6 Area supported by each stay 208  $\text{sq. in.}$

Over threads 2 1/2" Working pressure by Rules 190. Screw stays: Material S Tensile strength 26/30

Diameter { At turned off part, MARGINAL. 1 7/8" INNER 1 1/2" No. of threads per inch 10. Area supported by each stay 69.45  $\text{sq. in.}$

Over threads



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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 5/16" 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 Tubes  
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.  
Manufacturer.

Dates of Survey { During progress of work in shops - - 1923: Mar 30, 29 Apr 4, 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 When applied for 15757 1923  
Travelling Expenses (if any) £ - : - : - When received 15757 1923

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 15 MAY 1923

Assigned TRANSMIT TO LONDON