

# REPORT ON BOILERS.



Received at London Office 27 SEP 1928

Date of writing Report 1928 When handed in at Local Office 21.9.1928 Port of Glasgow

No. in Reg. Book Survey held at Glasgow Date, First Survey 8.2.28 Last Survey 20.9.1928

on the S/S "KERMA". (Number of Visits 46) Gross 4333 Tons Net

Master Built at Glasgow By whom built W. & W. Henderson & Co. Ltd. Yard No. 831 When built 1928

Engines made at Glasgow By whom made W. & W. Henderson & Co. Ltd. Engine No. 831 When made 1928

Boilers made at Glasgow By whom made W. & W. Henderson & Co. Ltd. Boiler No. 831 When made 1928

Nominal Horse Power 346 Owners F. C. Strick & Co. Ltd. Port belonging to London

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

Manufacturers of Steel David Boyle & Sons Ltd (Letter for Record (S))

Total Heating Surface of Boilers 4601 sq ft Is forced draught fitted yes Coal or Oil fired coal

No. and Description of Boilers Two single ended 25.B. Working Pressure 180

Tested by hydraulic pressure to 320 Date of test 14-8-28 No. of Certificate 18004 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 57.75 sq ft No. and Description of safety valves to each boiler two Improved High Lift

Area of each set of valves per boiler per Rule 8.845 as fitted 9.82 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 yes

Smallest distance between boilers or uptakes and bunkers or woodwork 2.6" Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating 2.0" Is the bottom of the boiler insulated no

Largest internal dia. of boilers 14.6" Length 11.9" Shell plates: Material steel Tensile strength 28-32 tons

Thickness 1 3/16" Are the shell plates welded or flanged no Description of riveting: circ. seams end DR

long. seams DBS.T.R Diameter of rivet holes in circ. seams 1 1/4" Pitch of rivets 3.9" 8 3/4"

Percentage of strength of circ. end seams plate 67.98 rivets 43.48 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 85.71 rivets 90.95 combined 89.61 Working pressure of shell by Rules 180

Thickness of butt straps counter 1" inner 1 1/8" No. and Description of Furnaces in each Boiler Three Deighton B.C.

Material steel Tensile strength 26-30 tons Smallest outside diameter 43.1875"

Length of plain part top bottom Thickness of plates crown 1 1/2" bottom 1 3/32" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 200

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 5/32" Pitch of stays 15 1/2" x 19 1/4"

How are stays secured D.N. Working pressure by Rules 185

Tube plates: Material front steel back " Tensile strength 26-30 tons Thickness 1 5/16" 3/4"

Mean pitch of stay tubes in nests 9.875" Pitch across wide water spaces 13 1/2" Working pressure front 183 back 181

Girders to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder

at centre 2 @ 9 1/4" x 1 3/16" Length as per Rule 34.75" Distance apart 9 3/4" No. and pitch of stays

in each 3 @ 8 3/8" Working pressure by Rules 188 Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 2 1/32" Back 2 1/32" Top 2 1/32" Bottom 1 3/16"

Pitch of stays to ditto: Sides 8 3/8" x 9 1/4" Back 9" x 8 7/8" Top 8 3/8" x 9 3/4" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 181 Front plate at bottom: Material steel Tensile strength 26-30 tons

Thickness 1 5/16" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 1 3/16"

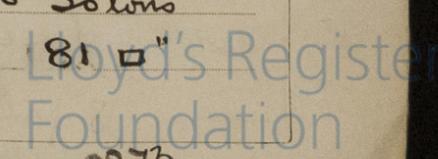
Pitch of stays at wide water space 14" Are stays fitted with nuts or riveted over nuts

Working Pressure 195 Main stays: Material steel Tensile strength 28-32 tons

Diameter At body of stay, Over threads 2 7/8" No. of threads per inch 6 Area supported by each stay 290 sq in

Working pressure by Rules 210 Screw stays: Material steel Tensile strength 26-30 tons

Diameter At turned off part, or Over threads 1 7/8" No. of threads per inch 9 Area supported by each stay 81 sq in



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Working pressure by Rules **187** Are the stays drilled at the outer ends **no** Margin stays: Diameter { At turned off part, or Over threads **2"**

No. of threads per inch **9** Area supported by each stay **102 sq"** Working pressure by Rules **242**

Tubes: Material **Iron** External diameter { Plain **2 1/2"** Stay **2 1/2"** Thickness { **5 3/8"** No. of threads per inch **9**

Pitch of tubes **3 3/4" x 3 3/4"** Working pressure by Rules **300** Manhole compensation: Size of opening in shell plate **20" x 16"** Section of compensating ring **9 3/4" x 1 3/4"** No. of rivets and diameter of rivet holes **40 @ 1 1/4"**

Outer row rivet pitch at ends **8 3/4"** Depth of flange if manhole flanged **3 1/4"** Steam Dome: Material **none**

Tensile strength **168** Thickness of shell **1 1/2"** Description of longitudinal joint

Diameter of rivet holes **1 1/8"** Pitch of rivets **1 1/2"** Percentage of strength of joint { Plate Rivets **85%**

Internal diameter **8 5/8"** Working pressure by Rules **187** Thickness of crown **1 1/2"** No. and diameter of stays **188** Inner radius of crown **1 1/2"** Working pressure by Rules **187**

How connected to shell **none** Size of doubling plate under dome **none** Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell **none**

Date of writing

No. in Su Reg. Book.

Master

Engines ma

Boilers ma

Nominal H

Type of Superheater **none** Manufacturers of { Tubes Steel castings

Number of elements **none** Material of tubes **none** Internal diameter and thickness of tubes **none**

Material of headers **none** Tensile strength **none** Thickness **none** Can the superheater be shut off and the boiler be worked separately **none** Is a safety valve fitted to every part of the superheater which can be shut off from the boiler **none**

Area of each safety valve **none** Are the safety valves fitted with easing gear **none** Working pressure as per Rules **none** Pressure to which the safety valves are adjusted **none** Hydraulic test pressure: tubes castings and after assembly in place **none** Are drain cocks or valves fitted to free the superheater from water where necessary **none**

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with **yes**

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The foregoing is a correct description,  
 For DAVID & WILLIAM HENDERSON & CO., LTD. Manufacturer.  
 J. H. Paterson DIRECTOR.

Dates of Survey { During progress of work in shops - - See accompanying machinery report  
 while building { During erection on board vessel - -

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) **yes**

Total No. of visits **46**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
 The materials and workmanship are good.  
 The boilers have been constructed under special survey in accordance with the Rules. Satisfactorily fitted in the vessel and their safety valves adjusted under steam.

Adk  
 21/9/28

Survey Fee ... £ **see main Rpt** When applied for, **192**

Travelling Expenses (if any) £ **see main Rpt** When received, **192**

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

Committee's Minute **GLASGOW 26 SEP 1928**  
 Assigned **See accompanying Machinery Report**

