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# REPORT ON BOILERS.

No. 59656

Received at London Office APR 27 1938

Writing Report *2<sup>nd</sup> time* 1938 When handed in at Local Office 22. 4. 1938 Port of *Glasgow*

of op. in Survey held at *Glasgow* Date, First Survey 3. 12. 37 Last Survey 15. 4. 1938

on the *J.J.* (Number of Visits 23) Tons { Gross Net

Built at *Sunderland* By whom built *Bartram & Son* Yard No. 279 When built

Dimensions made at *Hebburn & Tyne* By whom made *White's Marine Eng Co Ltd* Engine No. 14/C When made

Boilers made at *Glasgow* By whom made *Barclay Curle & Co Ltd* Boiler No. 37/11 When made 1938

Original Horse Power Owners Port belonging to

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *Colvilles Ltd* (Letter for Record *S*)

Heating Surface of Boilers 1322 sq ft Is forced draught fitted *no* Coal or Oil fired *both*

Description of Boilers *One - single ended* Working Pressure 24.0 lb

Tested by hydraulic pressure to 410 lb Date of test 30-3-38 No. of Certificate 20145 Can each boiler be worked separately

Area of Firegrate in each Boiler 38.3 sq ft No. and Description of safety valves to each boiler *One 1 1/2 Improved High Lift Double Safety Valve*

Area of each set of valves per boiler { per Rule 6.48 as fitted 3.53 Pressure to which they are adjusted 240 lb 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 *—* Is oil fuel carried in the double bottom under boilers *yes*

Smallest distance between shell of boiler and tank top plating *2' 8"* Is the bottom of the boiler insulated *yes*

Largest internal dia. of boilers 12' 0" Length 10' 6" Shell plates: Material *Steel* Tensile strength 29/33 tons

Thickness 1 3/32" Are the shell plates welded or flanged *no* Description of riveting: circ. seams { end D.R. Lat inter. 3.565

Long. seams *T.R.D.B.S.* Diameter of rivet holes in { circ. seams 1 5/16" Pitch of rivets 9.125

Percentage of strength of circ. end seams { plate 63.18 rivets 46.99 Percentage of strength of circ. intermediate seam { plate rivets

Percentage of strength of longitudinal joint { plate 85.61 rivets 86.06 Working pressure of shell by Rules 24.3 lb

Thickness of butt straps { outer 3/32" inner 1/32" No. and Description of Furnaces in each Boiler *2 - Doughton*

Material *Steel* Tensile strength 26/30 tons Smallest outside diameter 4 3/4"

Length of plain part { top bottom Thickness of plates { crown 23/32" bottom 23/32" Description of longitudinal joint *welded*

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 24.4 lb

End plates in steam space: Material *Steel* Tensile strength 26/30 tons Thickness 1 3/16" Pitch of stays 16 3/4" x 16 1/4"

How are stays secured *Double Nuts* Working pressure by Rules 24.1 lb

Tube plates: Material { front back *Steel* Tensile strength 26/30 tons Thickness { 1" 29/32"

Mean pitch of stay tubes in nests 11.0625" Pitch across wide water spaces 14 1/4" Working pressure { front 24.3 lb w.w.s back 31.4 lb

Girders to combustion chamber tops: Material *Steel* Tensile strength 28/32 tons Depth and thickness of girder

at centre 2 @ 7 3/4" x 7/8" Length as per Rule 30 3/8" Distance apart 8" No. and pitch of stays

in each 2 @ 9 1/4" Working pressure by Rules 24.3 lb Combustion chamber plates: Material *Steel*

Tensile strength 26/30 tons Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 27/32"

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

Working pressure by Rules 24.3 lb Front plate at bottom: Material *Steel* Tensile strength 26/30 tons

Thickness 1" Lower back plate: Material *Steel* Tensile strength 26/30 tons Thickness 29/32"

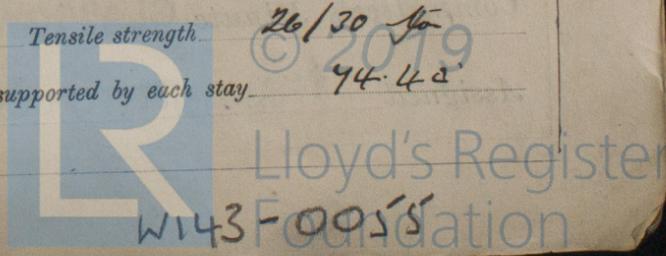
Pitch of stays at wide water space 14 1/4" Are stays fitted with nuts or riveted over *nuts*

Working Pressure 24.4 lb Main stays: Material *Steel* Tensile strength 28/32 tons

Diameter { At body of stay, or Over threads 3" No. of threads per inch 6 Area supported by each stay 258 sq"

Working pressure by Rules 26.0 lb Screw stays: Material *Steel* Tensile strength 26/30 tons

Diameter { At turned off part, or Over threads 1 3/4" No. of threads per inch 9 Area supported by each stay 94.4 sq"



Working pressure by Rules **245.0** 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 **97.75 sq"** Working pressure by Rules **253.0**  
 Tubes: Material **Welded Steel** External diameter { Plain **3 1/4"** Stay **3 1/4"** Thickness { **5/16"** **3/8"** } No. of threads per inch **9**  
 Pitch of tubes **4 3/8" x 4 1/2"** Working pressure by Rules **280.0** Manhole compensation: Size of opening in shell plate **20 1/2" x 16 1/4"** Section of compensating ring **2 x 8 1/8" x 1 9/32"** No. of rivets and diameter of rivet holes **40 @ 1 5/16"**  
 Outer row rivet pitch at ends **9 1/8"** Depth of flange if manhole flanged **4 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 { Plate Rivets }  
 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**

Manufacturers of { Tubes Steel forgings Steel castings }  
 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 forgings and 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  Yes



The foregoing is a correct description, FOR BARCLAY, CURLE & CO., LTD. Manufacturer. *Alexander Macnellan*

Dates of Survey { During progress of work in shops - - } while building { During erection on board vessel - - }

SEE ACCOMPANYING MACHINERY REPORT.

Are the approved plans of boiler and superheater forwarded herewith  Yes  
 BOILER (If not state date of approval.)  
 Total No. of visits

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

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)

*This boiler has been built under special survey in accordance with the Society's Rules and approved plans. The materials and workmanship are good. The boiler is intended for Messrs White's Marine Eng. Co Ltd Engine No 14 C & has been sent to Sunderland to be installed in Messrs Bartram's Yard No 279. 22/4/38.*

*This boiler has been efficiently fitted on board and its safety valves have been adjusted under steam. I. R. Stone*

Survey Fee ... £ *See main spec* When applied for, 19  
 Travelling Expenses (if any) £ : : When received, 19

*G. Anderson*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 26 APR 1938**

FRI 22 JUL 1938

Assigned **TRANSMIT TO LONDON**



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