

28 JAN 1925

Rpt. 5a.

## REPORT ON BOILERS.

No. 44328.

Received at London Office

28 JAN 1925

Date of writing Report 15<sup>th</sup> Jan 1925 When handed in at Local Office 17.1.1925 Port of Glasgow.No. in Survey held at 6lydebank Date, First Survey 9.4.23 Last Survey 13<sup>th</sup> Jan 1925  
Reg. Book. (Number of Visits 136) Gross 20001  
on the steel twin screw "Oronsay" Tons Net 11441

Master Built at 6lydebank By whom built John Brown &amp; Co. Yard No. 500 When built 1925

Engines made at 6lydebank By whom made John Brown &amp; Co. Engine No. 500 When made 1925

made at 6lydebank By whom made John Brown &amp; Co. Boiler No. 500 When made 1925

Horse Power 3813 Owners Orient S. N. Co. Ltd Port belonging to Glasgow

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

Manufacturers of Steel D. Colville &amp; Sons Ltd (Letter for Record 8.)

Total Heating Surface of Boilers 12306.08<sup>sq</sup> Is forced draught fitted Yes Coal or Oil fired OilNo. and Description of Boilers 4<sup>th</sup> Single ended Working Pressure 215

Tested by hydraulic pressure to 373 Date of test 27.12.23 No. of Certificate 16394 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler oil fuel No. and Description of safety valves to each boiler 2-3 1/4" spring loaded high lift

Area of each set of valves per boiler {per Rule 8.29<sup>sq</sup> Pressure to which they are adjusted 220 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 Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 16'-1" Length 11'-1 3/4" Shell plates: Material 8 Tensile strength 30-34

Thickness 1 3/32" Are the shell plates welded or flanged No Description of riveting: circ. seams {end J.R. inter. nil

Ing. seams T.R.D.B.S. Diameter of rivet holes in {circ. seams 1 1/2" Pitch of rivets {3.916" 10.125"

Percentage of strength of circ. end seams {plate 61.69 rivets 47.12 Percentage of strength of circ. intermediate seam {plate rivets

Percentage of strength of longitudinal joint {plate 85.18 rivets 85.4 Working pressure of shell by Rules 223

Thickness of butt straps {outer 1 1/4" inner 1 1/8" No. and Description of Furnaces in each Boiler 3-Deighton

Material 8 Tensile strength 26-30 Smallest outside diameter 46 3/8"

Length of plain part {top bottom Thickness of plates {crown 1 1/16" bottom Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 227

End plates in steam space: Material 8 Tensile strength 26-30 Thickness 1 3/32" Pitch of stays 17"x17"

How are stays secured J.N. Working pressure by Rules 216

Tube plates: Material {front 8 back 8 Tensile strength {26-30 Thickness {7/8" 7/8"

Mean pitch of stay tubes in nests 9 3/8" Pitch across wide water spaces 13 1/2" Working pressure {front 219 back

Girders to combustion chamber tops: Material 8 Tensile strength 28-32 Depth and thickness of girder

at centre 8"x1 1/2" Length as per Rule 30" Distance apart 8 1/4" No. and pitch of stays

in each 2-10"x8 1/4" Working pressure by Rules 242 Combustion chamber plates: Material 8

Tensile strength 26-30 Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 5/64"

Pitch of stays to ditto: Sides 10 3/8"x8 3/8" Back 9 1/4"x9" Top 10"x8 1/4" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 220 Front plate at bottom: Material 8 Tensile strength 26-30

Thickness 7/8" Lower back plate: Material 8 Tensile strength 26-30 Thickness 7/8"

Pitch of stays at wide water space 13 1/2"x9" Are stays fitted with nuts or riveted over nuts

Working Pressure 266 Main stays: Material 8 Tensile strength 28-32

Diameter {At body of stay 2 1/16" No. of threads per inch 6 Area supported by each stay 289<sup>sq</sup>

Working pressure by Rules 220 Screw stays: Material 8 Tensile strength 26-30

Diameter {At turned off part 1 3/4" No. of threads per inch 9 Area supported by each stay 82.5<sup>sq</sup>

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Working pressure by Rules **222** Are the stays drilled at the outer ends **no** Margin stays: Diameter { At turned off part, **1 15/16"** or Over threads **1 15/16"**

No. of threads per inch **9** Area supported by each stay **102.3"** Working pressure by Rules **226**

Tubes: Material **8** External diameter { Plain **2 1/2"** Stay **2 1/2"** Thickness **9/16 + 1/4"** No. of threads per inch **9**

Pitch of tubes **3 3/4" x 3 3/4"** Working pressure by Rules **230** Manhole compensation: Size of opening

shell plate **21" x 17"** Section of compensating ring **38" x 34 7/8"** No. of rivets and diameter of rivet holes **40 - 1 1/2"**

Outer row rivet pitch at ends **10 3/8"** Depth of flange if manhole flanged **✓** 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

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 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 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

**John Brown & Company, Limited.**  
The foregoing is a correct description,

*W. Henderson*  
Clydebank Secretary.

Dates of Survey { During progress of work in shops -- See accompanying Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) **Yes.**

while building { During erection on board vessel -- Machinery Report Total No. of visits **136.**

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) *These boilers have been built under special survey in accordance with the approved plan, and the Society's Rules and requirements, the materials and workmanship are good, and the boilers have been satisfactorily fitted on board.*

Survey Fee ... £ *See attached Report.* When applied for, 192

Travelling Expenses (if any) £ *See attached Machinery Report.* When received, 192

*Jas. Cairns*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 27 JAN 1925**

Assigned *See accompanying machinery report.*



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Foundation

*A.L.*  
17/1/25.