

REPORT ON BOILERS.

No. 52703

Received at London Office

13 JUL 1932

Date of writing Report 19 When handed in at Local Office 9. 7. 1932 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 8th Decr 1931 Last Survey 7th July 1932

6752 of the "I. S. 'Gazcon'" (Number of Visits 46) Tons {Gross 4224. Net 2479.

Master Built at Glasgow By whom built A. Stephen & Sons Ltd Yard No. 534 When built 1932

Engines made at Glasgow By whom made A. Stephen & Sons Ltd. Engine No. 534 When made 1932

Boilers made at do. By whom made do Boiler No. 534 When made 1932.

Nominal Horse Power 493. Owners Compagnie de Navigation d'Alger port belonging to La Rochelle.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Company of Scotland (Letter for Record S)

Total Heating Surface of Boilers 6214 sq ft Is forced draught fitted y/o. Coal or Oil fired Coal.

No. and Description of Boilers Two Single Ended Return Tube. Working Pressure 210 lbs.

Tested by hydraulic pressure to 365 lbs. Date of test 18.4.32 No. of Certificate 191193 Can each boiler be worked separately y/o.

Area of Firegrate in each Boiler 60 sq ft No. and Description of safety valves to each boiler 2 Improved High Lift.

Area of each set of valves per boiler {per Rule 8.54 sq ft as fitted 19.74 sq ft Pressure to which they are adjusted Are they fitted with easing gear y/o.

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 hull clear Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated y/o.

Largest internal dia. of boilers 16' 6" Length 12' 0" Shell plates: Material S Tensile strength 29.33 tons

Thickness 1 1/2" Are the shell plates welded or flanged No. Description of riveting: circ. seams {end DR overlap ✓ inter. 4 3/4" ✓

long. seams DBS 3R. Strips in pitch Diameter of rivet holes in {circ. seams 1 9/16" ✓ long. seams 1 9/16" ✓ Pitch of rivets {plate ✓ rivets ✓ 10 5/8" ✓

Percentage of strength of circ. end seams {plate 64.20 rivets 42.40 Percentage of strength of circ. intermediate seam {plate ✓ rivets ✓

Percentage of strength of longitudinal joint {plate 85.75 rivets 89.40 Working pressure of shell by Rules 210. combined 88.80

Thickness of butt straps {outer 5 3/32" ✓ inner 1 9/32" ✓ No. and Description of Furnaces in each Boiler 3 Deighton.

Material S Tensile strength 26-30 tons Smallest outside diameter 49 1/2"

Length of plain part {top ✓ bottom ✓ Thickness of plates {crown 23" ✓ bottom 32" ✓ Description of longitudinal joint Weld.

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnaces by Rules 214.

End plates in steam space: Material S Tensile strength 26-30 tons Thickness 1 1/4" Pitch of stays 20" x 16 3/4"

How are stays secured Into inside + outside Working pressure by Rules 213.

Tube plates: Material {front } S Tensile strength { } 26-30 tons Thickness { 29 3/32" ✓ 1 1/8" ✓ back } ✓

Mean pitch of stay tubes in nests 10 5/16" Pitch across wide water spaces 13 3/4" Working pressure {front 235. back 260.

Girders to combustion chamber tops: Material S Tensile strength 28-32 tons Depth and thickness of girder at centre 10 1/2" x 1 3/4" Length as per Rule 36 1/16" Distance apart 10" No. and pitch of stays in each 3 @ 8 1/2" Working pressure by Rules 225.

Tensile strength 26-30 tons Thickness: Sides 23 3/32" 4 3/4" x 11 1/16" Back 11 1/16" Top 23 3/32" 4 3/4" Bottom 29 3/32" ✓

Pitch of stays to ditto: Sides 9" x 8 1/2" Back 9" x 8 1/2" Top 10" x 8 1/2" Are stays fitted with nuts or riveted over Nuts.

Working pressure by Rules 211 Front plate at bottom: Material S Tensile strength 26-30 tons

Thickness 29 3/32" Lower back plate: Material S Tensile strength 26-30 tons Thickness 5 3/4" ✓

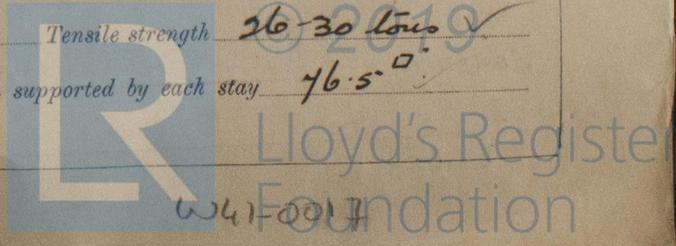
Pitch of stays at wide water space 13 3/4" Are stays fitted with nuts or riveted over Nuts.

Working Pressure 210. Main stays: Material S 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 335 sq in.

Working pressure by Rules 210. Screw stays: Material S Tensile strength 26-30 tons ✓

Diameter {At turned off part, or Over threads 1 5/8" x 1 3/4" ✓ No. of threads per inch 9 ✓ Area supported by each stay 76.5 sq in.



Working pressure by Rules **210**. Are the stays drilled at the outer ends **No**. Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part } 1\frac{1}{2} \\ \text{or } 1\frac{1}{8} + 2\frac{1}{8} \end{array} \right. \checkmark$
 No. of threads per inch **9**. Area supported by each stay **116 0"**. Working pressure by Rules **246**.
 Tubes: Material **Iron**. External diameter $\left\{ \begin{array}{l} \text{Plain } 2\frac{3}{4} \\ \text{Stay } 2\frac{3}{4} \end{array} \right. \checkmark$. Thickness $\left\{ \begin{array}{l} 8 \text{ W.G. } 1/16 \\ 5/16, 3/8, 1/2 \end{array} \right. \checkmark$. No. of threads per inch **9**.
 Pitch of tubes **4 x 3 3/8**. Working pressure by Rules **242**. Manhole compensation: Size of opening in shell plate **None**. Section of compensating ring **in end plate**. No. of rivets and diameter of rivet holes **✓**
 Outer row rivet pitch at ends **✓**. Depth of flange **3 1/8**. Steam Dome: Material **✓**
 Tensile strength. Thickness of shell. Description of longitudinal joint.
 Diameter of rivet holes. Pitch of rivets. Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right. \checkmark$
 Internal diameter. Working pressure by Rules. Thickness of crown. No. and diameter of stays.
 How connected to shell. Inner radius of crown. Working pressure by Rules.
 of rivets in outer row in dome connection to shell. Size of doubling plate under dome. Diameter of rivet holes and pitch.

Type of Superheater

Manufacturers of $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$
 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 22 inclusive for boilers been complied with **✓**

ALEXANDER STEPHEN & SONS, LIMITED
 The foregoing is a correct description,
Alex MacLellan Director, Manufacturer.

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building} \end{array} \right.$ **SEE ACCOMPANYING MACHINERY REPORT.**
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval) **✓**
 Total No. of visits **4 6**

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.)
These Boilers have been built under special Survey and in accordance with the Rules. The materials and workmanship are good. They have been tested by hydraulic pressure and found tight and afterwards efficiently secured in position on board. The safety valves adjusted and the boiler examined under steam & found in order.

A.S.
9/7/32

Survey Fee ... £ *See Machinery Report.* When applied for. 19
 Travelling Expenses (if any) £ *See Machinery Report.* When received. 19

James Murray
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 12 JUL 1932**
 Assigned **SEE ACCOMPANYING MACHINERY REPORT.**

