

# REPORT ON BOILERS.

No. 56746

Received at London Office 18 MAR '36

of writing Report 19 When handed in at Local Office 14. 3. 1936 Port of Glasgow 17 JUN 1936

Survey held at Glasgow Date, First Survey 17. 12. 35 Last Survey 10. 3. 1936

on the new steel s/s "THE EARL" (Number of Visits 11) Tons {Gross 926 Net 481

ter Built at Troon By whom built Ailsa S B Co L<sup>d</sup> Yard No. 422 When built 1936

ameterines made at Troon By whom made Ailsa S B Co L<sup>d</sup> Engine No. 157 When made 1936

Boilers made at Glasgow By whom made David Rowan & Co L<sup>d</sup> Boiler No. 416 When made 1936

and p... ninal Horse Power Owners J. Hay & Co L<sup>d</sup> Port belonging to Glasgow

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

Manufacturers of Steel Bolnilles L<sup>td</sup> (Letter for Record (S) ✓)

al Heating Surface of Boilers 1930 sq ft Is forced draught fitted no ✓ Coal or Oil fired coal ✓

and Description of Boilers one single ended ✓ Working Pressure 215 lb

es fitted by hydraulic pressure to 373 Date of test 10-3-36 No. of Certificate 19687 Can each boiler be worked separately -

ea of Firegrate in each Boiler 59 sq ft No. and Description of safety valves to each boiler

ea of each set of valves per boiler {per Rule as fitted Pressure to which they are adjusted Are they fitted with easing gear

case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

factuallest distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers

allest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated

rgest internal dia. of boilers 14'-9" ✓ Length 10'-9" ✓ Shell plates: Material steel ✓ Tensile strength 29-33 tons ✓

ickness 1 25/64" Are the shell plates welded or flanged no ✓ Description of riveting: circ. seams {end DR, inter -

g. seams D.B.S. T.R Diameter of rivet holes in {circ. seams F 1 9/16" B 1 7/16" long. seams 1 1/16" Pitch of rivets {F 3-376" B 4" 9 3/4" ✓

ercentage of strength of circ. end seams {plate F 61.1 B 64.06 rivets F 45.8 B 46.4 Percentage of strength of circ. intermediate seam {plate 85.25 rivets 88.6 combined 88.2 Working pressure of shell by Rules 216.5

ercentage of strength of longitudinal joint {plate 85.25 rivets 88.6 combined 88.2 Working pressure of shell by Rules 216.5

ickness of butt straps {outer 1 1/16" inner 1 3/16" ✓ No. and Description of Furnaces in each Boiler Three Deighton 30 ft ✓

aterial steel ✓ Tensile strength 26-30 tons ✓ Smallest outside diameter 3'-10 3/8" ✓

ngth of plain part {top bottom Thickness of plates {crown 1 1/16" bottom 1 1/16" ✓ Description of longitudinal joint welded

mensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 217 ✓

ad plates in steam space: Material steel ✓ Tensile strength 26-30 tons ✓ Thickness 1 9/32" ✓ Pitch of stays 20" x 17 3/4" ✓

ow are stays secured DN ✓ Working pressure by Rules 215

be plates: Material {front steel ✓ back " ✓ Tensile strength {26-30 tons " " Thickness {15/16" 13/16" ✓

ean pitch of stay tubes in nests 10.125" ✓ Pitch across wide water spaces 14 1/8" ✓ Working pressure {front 220 back 233

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

centre 20 9/8" x 7/8" ✓ Length as per Rule 33.5" ✓ Distance apart 10.25" ✓ No. and pitch of stays

each 30 8" ✓ Working pressure by Rules 219 ✓ Combustion chamber plates: Material steel ✓

nsile strength 26-30 tons Thickness: Sides 23/32" ✓ Back 1/16" ✓ Top 23/32" ✓ Bottom 13/16" ✓

ch of stays to ditto: Sides 10 1/4" x 8" ✓ Back 9 1/4" x 8 1/4" ✓ Top 10 1/4" x 8" ✓ Are stays fitted with nuts or riveted over nuts ✓

orking pressure by Rules 216 ✓ Front plate at bottom: Material steel ✓ Tensile strength 26-30 tons ✓

ickness 15/16" ✓ Lower back plate: Material steel ✓ Tensile strength 26-30 tons ✓ Thickness 13/16" ✓

ch of stays at wide water space 13 3/8" ✓ Are stays fitted with nuts or riveted over nuts ✓

orking Pressure 218 ✓ Main stays: Material steel ✓ Tensile strength 28-32 tons ✓

iameter {At body of stay, or Over threads 3" ✓ No. of threads per inch 6" ✓ Area supported by each stay 357 0" ✓

orking pressure by Rules 220 ✓ Screw stays: Material steel ✓ Tensile strength 26-30 tons ✓

iameter {At turned off part, or Over threads 1 3/4" ✓ No. of threads per inch 9 ✓ Area supported by each stay 76.2 0" ✓



Working pressure by Rules 238 Are the stays drilled at the outer ends no Margin stays: Diameter <sup>At turned off part,</sup> 17/8" <sub>or Over threads</sub>

No. of threads per inch 9 Area supported by each stay 94.50" Working pressure by Rules 225 lb

Tubes: Material Steel External diameter <sup>Plain</sup> 3/4 <sub>Stay</sub> 3/4 Thickness <sup>8WS.</sup> 1/4" 9/16 3/8" No. of threads per inch 9

Pitch of tubes 4 1/2" x 3/8" & 4 1/2" x 4 1/2" Working pressure by Rules 230 Manhole compensation: Size of opening shell plate 19 1/2" x 15 1/2" Section of compensating ring 10 1/2" x 1 25/64" No. of rivets and diameter of rivet holes 34 @ 1 1/2"

Outer row rivet pitch at ends 9 3/16" Depth of flange if manhole flanged 3" Steam Dome: Material none

Tensile strength \_\_\_\_\_ Thickness of shell \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_

Diameter of rivet holes \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Percentage of strength of joint <sup>Plate</sup> \_\_\_\_\_ <sub>Rivets</sub> \_\_\_\_\_

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 none Manufacturers of <sup>Tubes</sup> \_\_\_\_\_ <sub>Steel castings</sub> \_\_\_\_\_

Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Internal diameter and thickness of tubes \_\_\_\_\_

Material of headers \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness \_\_\_\_\_ Can the superheater be shut off 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 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 \_\_\_\_\_

The foregoing is a correct description,  
 For David Rowan & Co Ltd  
 Archd. W. Frierson Manufacturer

Dates of Survey <sup>During progress of work in shops - - -</sup> 1936 Dec.: 17. 18. 19. 27 Feb.: 3. 5. 18 Are the approved plans of boiler and superheater forwarded herewith yes <sub>(If not state date of approval.)</sub>

<sup>while building</sup> <sub>board vessel - - -</sub> 28 Mar.: 3. 5. 10 Total No. of visits 11

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. The President. S.S. Rpt. 19-560

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

The materials and workmanship are good.

The boiler has been constructed under Special Survey. It will be fitted on board the vessel at Troon.

*J. J. 13/3/36.*

Survey Fee ... .. £ 12 : 18 : | When applied for, 13.3. 1936

Travelling Expenses (if any) £ : : | When received, 1.4. 1936

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

Committee's Minute GLASGOW 17 MAR 1936

Assigned TRANSMIT TO LONDON

