

# REPORT ON BOILERS.

No. 61943

JAN 24 1940

Received at London Office

Date of writing Report \_\_\_\_\_ 19 \_\_\_\_\_ When handed in at Local Office 20.1.1940 Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 1939 July 7th Last Survey 11th Jan. 1940  
 on the S/S "CHARLBURY" (Number of Visits 54) Tons { Gross \_\_\_\_\_ Net \_\_\_\_\_  
 Master \_\_\_\_\_ Built at Burntisland By whom built Burntisland SBC Co. Ltd Card No. 238 When built \_\_\_\_\_  
 Engines made at Glasgow By whom made David Rowan & Co. Ltd. Engine No. 1048 When made 1940  
 Boilers made at Glasgow By whom made David Rowan & Co. Ltd. Boiler No. 1048 When made 1940  
 Nominal Horse Power 458 Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles Ltd. (Letter for Record 5)  
 Total Heating Surface of Boilers 1180 sq ft (1266 oil burn?) Is forced draught fitted No Coal or Oil fired either  
 No. and Description of Boilers one single ended Working Pressure 220 lb.  
 Tested by hydraulic pressure to 380 lb. Date of test 3/11/39 No. of Certificate 20476 Can each boiler be worked separately Yes  
 Area of Firegrate in each Boiler 32.9 sq ft No. and Description of safety valves to each boiler 2 spring loaded I.H.L. 1 3/4" dia.  
 Area of each set of valves per boiler { per Rule 3.3670" Pressure to which they are adjusted 220 lb. Are they fitted with easing gear Yes  
 { as fitted 4.80"  
 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 <sup>woodwork</sup> PLACED IN RECESS, STOWED HOLD, FOR MAIN BOILERS. Is oil fuel carried in the double bottom under boilers ✓  
 BACK OF BOILER TO HOLD BULKHEAD = 23"  
 Smallest distance between shell of boiler and tank top plating 2'-6" Is the bottom of the boiler insulated Yes  
 Largest <sup>EXT.</sup> internal dia. of boilers 11'-6" Length 10'-6" Shell plates: Material steel Tensile strength 29/32 tons  
 Thickness 1 7/16" Are the shell plates welded or flanged No Description of riveting: circ. seams { end D.R. ✓  
 { inter. ✓  
 long. seams DBS TR Diameter of rivet holes in { circ. seams 1 9/16" Pitch of rivets { 3.1875"  
 { long. seams 8"  
 Percentage of strength of circ. end seams { plate 62.7 Percentage of strength of circ. intermediate seam { plate -  
 { rivets 49.7 { rivets -  
 Percentage of strength of longitudinal joint { plate 85.16 Working pressure of shell by Rules 222 lb.  
 { rivets 92.7  
 { combined 88.9  
 Thickness of butt straps { outer 27/32" No. and Description of Furnaces in each Boiler Two Brighten  
 { inner 31/32" Material steel Tensile strength 26/30 tons Smallest outside diameter 3'-4 3/4"  
 Length of plain part { top - Thickness of plates { crown 5/8" Description of longitudinal joint welded  
 { bottom - { bottom - Working pressure of furnace by Rules 223 lb.  
 Dimensions of stiffening rings on furnace or c.c. bottom ✓  
 End plates in steam space: Material steel Tensile strength 26/30 tons Thickness 1 1/4" Pitch of stays 21 1/2" x 14"  
 How are stays secured D.N. Working pressure by Rules 221 lb.  
 Tube plates: Material { front steel Tensile strength { 26/30 tons Thickness { 15/16" 25/32"  
 { back ✓ Working pressure { front 229 lb.  
 Mean pitch of stay tubes in nests 9.7" Pitch across wide water spaces 14" { back 232 lb.  
 Girders to combustion chamber tops: Material steel Tensile strength 28/32 tons Depth and thickness of girder  
 at centre 20 7/4" x 7/8" Length as per Rule 28 1/16" Distance apart 9 1/4" No. and pitch of stays  
 in each 20 8 7/8" Working pressure by Rules 220 lb. Combustion chamber plates: Material steel  
 Tensile strength 26/30 tons Thickness: Sides 3/4" Back 21/32" Top 3/4" Bottom 3/4"  
 Pitch of stays to ditto: Sides 8 7/8" x 9 1/4" Back 8" x 8 1/2" Top 8 7/8" x 9 1/4" Are stays fitted with nuts or riveted over Nuts  
 Working pressure by Rules 220 lb. Front plate at bottom: Material steel Tensile strength 26/30 tons  
 Thickness 15/16" Lower back plate: Material steel Tensile strength 26/30 tons Thickness 5 3/4"  
 Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over Nuts  
 Working Pressure 227 lb. Main stays: Material steel Tensile strength 28/32 tons  
 Diameter { At body of stay, 2 3/4" + 3" No. of threads per inch 6 Area supported by each stay 280 sq" + 3210 sq"  
 { Over threads -  
 Working pressure by Rules 233 + 244 lb. Screw stays: Material steel Tensile strength 26/30 tons  
 Diameter { At turned off part, 1 5/8" + 1 3/4" No. of threads per inch 9 Area supported by each stay 68 + 830 sq"  
 { Over threads -

Working pressure by Rules 224 & 220 Are the stays drilled at the outer ends no Margin stays: Diameter <sup>At turned off part,</sup> 1 3/4" & 1 7/8"  
 No. of threads per inch 9 Area supported by each stay 83 & 91 sq" Working pressure by Rules 220 & 234 lb.  
 Tubes: Material Iron External diameter <sup>Plain 3"</sup> 3" Thickness <sup>Stay 3"</sup> 1/4", 5/16" & 3/8" No. of threads per inch 9  
 Pitch of tubes 4 3/16" x 4 1/8" Working pressure by Rules 250 lb. Manhole compensation: Size of opening in  
 shell plate 19 1/2" x 15 1/2" Section of compensating ring 8 3/4" x 1 7/4" No. of rivets and diameter of rivet holes 32 @ 1 1/4"  
 Outer row rivet pitch at ends 8 1/4" 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> \_\_\_\_\_  
 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 none Manufacturers of <sup>Tubes</sup> \_\_\_\_\_  
<sup>Steel forgings</sup> \_\_\_\_\_  
<sup>Steel castings</sup> \_\_\_\_\_  
 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 of  
 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. Manufacturers  
 Arch. N. Grierson

Dates of Survey <sup>During progress of work in shops - -</sup> \_\_\_\_\_ Are the approved plans of boiler and superheater forwarded herewith Yes  
<sup>while building</sup> <sup>During erection on board vessel - -</sup> \_\_\_\_\_ (If not state date of approval.)  
**SEE ACCOMPANYING MACHINERY REPORT.**  
 Total No. of visits \_\_\_\_\_

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. "DAN-Y-BRYN" GLS. REG. NO. 61742

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. It has been sent to Bruntsland to be fitted in the vessel.

This boiler has been efficiently fitted on board & the safety valves adjusted to 220 lbs/sq".  
 J. I. Campbell.  
 Pop  
 20/1/40

Survey Fee ... £ \_\_\_\_\_ When applied for, 19 \_\_\_\_\_  
 Travelling Expenses (if any) £ See Mach. Rpt. : \_\_\_\_\_ When received, 19 \_\_\_\_\_

[Signature]  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 23 JAN 1940**

Assigned **SEE ACCOMPANYING MACHINERY REPORT**

FRI 19 APR 1940

