

REPORT ON BOILERS.

No. 61943

Received at London Office

JAN 24 1940

Date of writing Report

19

When handed in at Local Office

20. 1. 1940

Port of Glasgow

No. in Reg. Book

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 Buntisland By whom built Buntisland SBCo. Yard 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 5322 sq ft (5646 oil film?) forced draught fitted Yes

Coal or Oil fired Oil

No. and Description of Boilers Two single ended

Working Pressure 220 lb.

Tested by hydraulic pressure to 380 lb. Date of test 3/11/39 No. of Certificate 20475 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 63.25 sq ft No. and Description of safety valves to each boiler 2 spring loaded I.H.L. 2 1/2" dia.

Area of each set of valves per boiler { per Rule 7.5790" as fitted 9.80" Pressure to which they are adjusted - 220 lb. Are they fitted with easing gear - Yes.

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 SIDE OF BOILERS TO SIDE BUNKERS 22"

Smallest distance between shell of boiler and tank top plating - 2'-6" Is oil fuel carried in the double bottom under boilers -

Largest external dia. of boilers 16'-0" Length 11'-6" Shell plates: Material steel Tensile strength 29/33 tons Thickness 1 33/64 Are the shell plates welded or flanged no Description of riveting: circ. seams { end D.R. inter. - long. seams D.B.S. T.R. Diameter of rivet holes in { circ. seams F 1 7/16" B 1 9/16" Pitch of rivets { F 3.78" B 4.4" 10 1/2"

Percentage of strength of circ. end seams { plate F 61.9 B 60 rivets 45.2 45.8 Percentage of strength of circ. intermediate seam { plate - rivets -

Percentage of strength of longitudinal joint { plate 85.1 rivets 84.6 combined 88 Working pressure of shell by Rules 221 lb.

Thickness of butt straps { outer 1 9/64 inner 1 17/64 No. and Description of Furnaces in each Boiler 3 Sleighten Material steel Tensile strength 26-30 tons Smallest outside diameter 3'-11 15/32

Length of plain part { top - bottom - Thickness of plates { crown 4 7/64 bottom 4 7/64 Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules 227 lb.

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 7/16" Pitch of stays 21 5/8" x 20 3/8"

How are stays secured D.N. Working pressure by Rules 220 lb.

Tube plates: Material { front steel back steel Tensile strength { 26/30 tons Thickness { 15/16" 25/32

Mean pitch of stay tubes in nests 9.7" Pitch across wide water spaces 14" Working pressure { front 229 lb. back 232 lb.

Girders to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder at centre 209" x 7/8" Length as per Rule 34 1/2" Distance apart 8 1/4" No. and pitch of stays in each 3 @ 8 1/4" Working pressure by Rules 224 lb. Combustion chamber plates: Material steel Tensile strength 26-30 tons Thickness: Sides 21/32 Back 23/32 Top 21/32 Bottom 27/32

Pitch of stays to ditto: Sides 8 1/4" x 8 1/4" Back 10" x 8" Top 8 1/4" x 8 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 3/64

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, 3 1/4" & 3 1/2" No. of threads per inch 6 Area supported by each stay 4080" x 4600"

Working pressure by Rules 228 & 236 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 680" x 800"

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Working pressure by Rules 228 & 226 Are the stays drilled at the outer ends no Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{or} \\ \text{Over threads} \end{array} \right. \frac{17}{8}''$

No. of threads per inch 9 Area supported by each stay 94 sq" Working pressure by Rules 228 lb.

Tubes: Material Iron External diameter $\left\{ \begin{array}{l} \text{Plain } 3'' \\ \text{Stay } 3'' \end{array} \right.$ Thickness $\left\{ \begin{array}{l} 8 \text{ WG} \\ 1/4, 7/16, 9/8 + 7/16 \end{array} \right.$ 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 11" x 1 3/4" No. of rivets and diameter of rivet holes 34 @ 1 9/16"

Outer row rivet pitch at ends 10 1/2" 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 $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$

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 Smoke tube Manufacturers of $\left\{ \begin{array}{l} \text{Tubes } \textit{For particulars, see spec. No. 9479} \\ \text{Steel forgings } \textit{copy herewith.} \\ \text{Steel castings } \end{array} \right.$

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 no Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes

Area of each safety valve 1.76 sq" Are the safety valves fitted with easing gear Yes Working pressure as per Rules _____ Pressure to which the safety valves are adjusted 220 lbs/sq" Hydraulic test pressure _____

tubes _____ forgings and castings _____ and after assembly in place 440 lbs. Are drain cocks or valves fitted to free the superheater from water where necessary yes.

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. N. Grierson Manufacturer

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - - -} \end{array} \right. \end{array} \right.$ Are the approved plans of boiler and superheater forwarded herewith Yes (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. R. NO 61742

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been built under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. They have been sent to Burntisland to be fitted in the vessel.

These boilers have been efficiently fitted on board, and the safety valves adjusted to 220 lbs/sq".

J. J. Campbell

EWB
20/1/40

Survey Fee £ see Mich. 24th. } When applied for, 10

Travelling Expenses (if any) see Mich. 24th. } When received, 10

[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

See Lt. J.E. 20067

