

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. 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 *J. J. J.* Built at *Burntisland* By whom built *Burntisland SBC* 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 \square (5646 oil \square ?) Is forced draught fitted Yes Coal or Oil fired *either*

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 \square 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 7.579 \square as fitted 9.8 \square 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". Is oil fuel carried in the double bottom under boilers -

Smallest distance between shell of boiler and tank top plating - 2'-6" Is the bottom of the boiler insulated - Yes.

Largest *Ext.* internal 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" long. seams 1 9/16" 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 89.6 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 *Right*

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 30 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 23/32

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 408 \square & 460 \square

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 \square & 800 \square

Working pressure by Rules 228 & 226 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, or Over threads 1 7/8" ✓
No. of threads per inch 9 Area supported by each stay 9 1/4 sq" Working pressure by Rules 228 lb.
Tubes: Material Iron External diameter { Plain 3" Thickness { 8 WG 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 { Plate _____ Rivets _____
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 { Tubes For particulars, see New App. 17: 9479
Steel forgings copy herewith.
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 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 on
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. Manufacturer
Arch. N. Grierson

Dates of Survey { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith Yes
while building { During erection on board vessel - - } (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. 1742

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".

Wb
20/1/40

J. J. Campbell

Survey Fee ... £ See Mich. 24th When applied for, 19
Travelling Expenses (if any) £ See Mich. 24th When received, 19

Committee's Minute GLASGOW 23 JAN 1940

Assigned SEE ACCOMPANYING MACHINERY REPORT.

Engineer Surveyor to Lloyd's Register of Shipping.

FRI 19 APR 1940

See
Let. J.E. 20067

Lloyd's Register
Foundation