

# REPORT ON BOILERS.

See Litch Rpt. No. 20005

No. 61742

5a.

Received at London Office 15 NOV 1939

Writing Report 19 When handed in at Local Office 13. 11. 1939 Port of **GLASGOW**

Size of Survey held at **GLASGOW** Date, First Survey 16. 6. 39 Last Survey 24. 11. 1939.

on the **S/S "DAN-Y-BRYN"** (Number of Visits 40) Tons { Gross 5117. Net 3034.

Built at **BURNTISLAND** By whom built **BURNTISLANDS B. Co.** Yard No. 239 When built

made at **GLASGOW** By whom made **D. ROWAN & Co. LD.** Engine No. 1049 When made 1939

made at **-DO-** By whom made **-DO-** Boiler No. 1049 When made 1939

Horse Power 458 Owners **Brynmor Steamship Co Ltd** Port belonging to **London.**

## TUBULAR BOILERS ~~MAIN~~, AUXILIARY, ~~OR DONKEY.~~

Manufacturers of Steel **Colvilles Ltd.** (Letter for Record **S**)

Heating Surface of Boilers 1266 sq. ft. (Oil burning) Is forced draught fitted **No** Coal or Oil fired **Either**

Description of Boilers **One single ended** Working Pressure **220 lbs.**

by hydraulic pressure to **380 lbs.** Date of test **6-10-39** No. of Certificate **20461** Can each boiler be worked separately **Yes**

Firegrate in each Boiler **32.9 sq. ft.** No. and Description of safety valves to each boiler **2 Spring loaded**

each set of valves per boiler { per Rule **6.73 sq. ft.** as fitted **7.95 sq. ft.** Pressure to which they are adjusted **-220 lbs.** Are they fitted with easing gear **- Yes.**

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

distance between boilers or uptakes and bunkers or woodwork **- Between main boiler.** Is oil fuel carried in the double bottom under boilers **-**

distance between shell of boiler and tank top plating **- 3'-0"** Is the bottom of the boiler insulated **- Yes.**

External dia. of boilers **11'-6"** Length **10'-6"** Shell plates: Material **Steel** Tensile strength **29/32 tons**

Are the shell plates welded or flanged **No** Description of riveting: circ. seams { end **D.R.** inter **-** } Pitch of rivets { **3.1875"** } **8"**

Strength of rivets { circ. seams { plate **62.7** rivets **49.7** } long. seams **1 3/16"** } Percentage of strength of circ. intermediate seam { plate **-** rivets **-** }

Strength of longitudinal joint { plate **85.15** rivets **92.7** combined **88.9** } Working pressure of shell by Rules **222 lbs.**

of butt straps { outer **27/32"** inner **31/32"** } No. and Description of Furnaces in each Boiler **2 Dighton**

Material **Steel** Tensile strength **26/30 tons** Smallest outside diameter **3'-4 3/4"**

Thickness of plates { crown **5/8"** bottom **5/8"** } Description of longitudinal joint **welded**

Working pressure of furnace by Rules **223 lbs.**

Stays in steam space: Material **Steel** Tensile strength **26/30 tons** Thickness **1 1/4"** Pitch of stays **21 1/2" x 14"**

Stays secured **Double Nuts** Working pressure by Rules **221 lbs.**

Stays: Material { front **Steel** back **Steel** } Tensile strength { **26/30 tons** } Thickness { **15/16"** } **25/32"**

Pitch of stay tubes in nests **9.7"** Pitch across wide water spaces **14"** Working pressure { front **229 tons** back **222 tons** }

to combustion chamber tops: Material **Steel** Tensile strength **26/30 tons** Depth and thickness of girder **20 7/8" x 7/8"** Length as per Rule **28 1/16"** Distance apart **9 1/4"** No. and pitch of stays **2 @ 8 7/8"** Working pressure by Rules **220 lbs.**

Combustion chamber plates: Material **Steel** Tensile strength **26/30 tons** Thickness: Sides **3/4"** Back **21/32"** Top **3/4"** Bottom **3/4"**

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 lbs.** Front plate at bottom: Material **Steel** Tensile strength **26/30 tons** Thickness **5 3/16"**

Lower back plate: Material **Steel** Tensile strength **26/30 tons** Thickness **5 3/16"**

Stays at wide water space **13 1/2"** Are stays fitted with nuts or riveted over **Nuts**

Working pressure **227 lbs.** Main stays: Material **Steel** Tensile strength **28/32 tons**

At body of stay **2 3/4" x 3"** No. of threads per inch **6** Area supported by each stay **2800" x 3210"**

Over threads **-** Screw stays: Material **Steel** Tensile strength **26/30 tons**

Working pressure by Rules **233-244 lbs.** At turned off part **-** No. of threads per inch **9** Area supported by each stay **680" x 830"**

Over threads **1 5/8" x 1 3/4"**

Working pressure by Rules **224+220** Are the stays drilled at the outer ends **no** Margin stays: Diameter { At turned off part, **1 3/4"** or Over threads **1 3/4" + 1**

No. of threads per inch **9** Area supported by each stay **830" 910"** Working pressure by Rules **220 lb. + 2**

Tubes: Material **Iron** External diameter { Plain **3"** Stay **3"** Thickness { **8 W.G.** No. of threads per inch **9** pt. 13

Pitch of tubes **4 3/16" x 4 1/8"** Working pressure by Rules **250 lb.** Manhole compensation: Size of shell plate **19 1/2" x 15 1/2"** Section of compensating ring **8 3/4" x 1 7/16"** 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 { Plate Rivets

Internal diameter Working pressure by Rules Thickness of crown No. and dia stays Inner radius of crown Working pressure by Rules

How connected to shell Size of doubling plate under dome Diameter of rivet holes built a

of rivets in outer row in dome connection to shell

Type of Superheater **None**

Manufacturers of { Tubes Steel forgings Steel castings

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

Material of headers Tensile strength Thickness Can the superheater be sh

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 pressu

Rules Pressure to which the safety valves are adjusted Hydraulic test

tubes forgings and castings and after assembly in place Are drain

valves fitted to free the superheater from water where necessary

Are drain

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.  
Arch. H. Grierson

Dates of Survey { During progress of work in shops - - - while building { During erection on board vessel - - - }

Are the approved plans of boiler and superheater forwarded herewith (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. **"CEFN-Y-BRYN" 96, R.C. 6**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **This boiler has been constructed under special survey in accordance with the Rules approved plan, and the materials and workmanship are good. It has been sent to Burntisland for installation in the vessel.**

**This boiler has been efficiently fitted on board and the safety valves adjusted to 220 lbs/sq.**

**Rib**  
**13/11/39**

**J. I. Campbell**

Survey Fee ... .. £ **See Mech. Dept.** When applied for, 19

Travelling Expenses (if any) £ : : When received, 19

Committee's Minute **GLASGOW 14 NOV 1939**

Assigned **SEE ACCOMPANYING MACHINERY REPORT.**

**M. Brown**  
Engineer Surveyor to Lloyd's Register of  
TUE 23 JAN 1940  
See  
Lth. J.C. 20005  
Lloyd's Register  
Foundation