

REPORT ON BOILERS.

mtb. Rpt.
No. 6440

Received at London Office

6 JUN 1945

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Date of writing Report **Dec. 7th, 1944** When handed in at Local Office **Nov. 13th, 1944** Port of **Montreal, Que.**
No. in Survey held at **Montreal, Que.** Date, First Survey **Sept. 18th, 1944** Last Survey **Oct. 25th, 1944.**
eg. Book. (Number of Visits **13**) Tons { Gross _____ Net _____
on the **S.S. "EVANGELINE PARK"**
Built at **Pictou, N.S.** By whom built **Foundation Maritime Limited** Yard No. **21** When built **1944**
Engines made at **Three Rivers, Quebec** By whom made **Canada Iron Foundries Ltd.** Engine No. **2034** When made **1944**
Boilers made at **LACHINE, QUE.** By whom made **DOMINION BRIDGE COMPANY LIMITED** Boiler No. **B1421** When made **1944**
Nominal Horse Power **269** Owners **CANADIAN GOVERNMENT** Port belonging to **MONTREAL**

MULTITUBULAR BOILERS—MAIN, ~~XXXXXXXXXXXXXXXXXXXX~~

Manufacturers of Steel **Bethlehem, Steel Co. of Canada, Lukens, etc.** (Letter for Record **S**)
Total Heating Surface of Boilers **1927 sq.ft.** Is forced draught fitted **Yes** Coal or Oil fired **Coal**
No. and Description of Boilers **1 Single Ended Multitubular** Working Pressure **200 lbs./sq.in.**
Tested by hydraulic pressure to **350 lbs./sq.in.** Date of test **25-10-44** No. of Certificate **4581** Can each boiler be worked separately **Yes**
Area of Firegrate in each Boiler **43.25 sq.ft.** and Description of safety valves to each boiler **One Twin Cockburn Improved High Lift 2 1/2" dia. each**
Area of each set of valves per boiler { per Rule **6.72 sq.in.** Pressure to which they are adjusted **200 lbs.** Are they fitted with easing gear **Yes**
as fitted **7.95 sq.in.**
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~~ **2' 3"** Is oil fuel carried in the double bottom under boilers **NO**
Smallest distance between shell of boiler and tank top plating **2' 0"** Is the bottom of the boiler insulated **YES**
Largest internal dia. of boilers **13' - 6"** Length **11' - 6"** Shell plates: Material **O.H. Steel** Tensile strength **29-33 tons**
Thickness **1 9/32"** Are the shell plates welded or flanged **Welded** Description of riveting: circ. seams { end **Welded**
inter **Welded**
long. seams **Welded** Diameter of rivet holes in { circ. seams **-** Pitch of rivets { **-**
long. seams **-** Percentage of strength of circ. intermediate seam { plate **-** rivets **-**
Percentage of strength of circ. end seams { plate **-** rivets **-**
Percentage of strength of longitudinal joint { plate **-** rivets **-** combined **-** Working pressure of shell by Rules **204.3 lbs./sq.in.**
Thickness of butt straps { outer **None** No. and Description of Furnaces in each Boiler **3 Morrison Corrugated**
inner **None** Material **O.H. Steel** Tensile strength **26-30 tons** Smallest outside diameter **38 1/2"**
Length of plain part { top **-** Thickness of plates { crown **9/16"** Description of longitudinal joint **Lap Weld**
bottom **-** Working pressure of furnace by Rules **212 lbs./sq.in.**
Dimensions of stiffening rings on furnace or c.c. bottom **-** Working pressure of furnace by Rules **212 lbs./sq.in.**
End plates in steam space: Material **O.H. Steel** Tensile strength **26-30 tons** Thickness **1 3/16"** Pitch of stays **18 1/2" x 17 1/2"**
How are stays secured **Inside and Outside Nuts** Working pressure by Rules **202.4 lbs./sq.in.**
Tube plates: Material { front **O.H. Steel** Tensile strength { **26-30 tons** Thickness { **29/32"**
back **O.H. Steel** **26-30 tons** **13/16"**
Mean pitch of stay tubes in nests **8 3/8" x 10 5/16"** Pitch across wide water spaces **14"** Working Pressure { front **245 lbs./sq.in.**
back **225 lbs./sq.in.**
Girders to combustion chamber tops: Material **O.H. Steel** Tensile strength **28-32 tons** Depth and thickness of girder
at centre **2 @ 7 3/4" x 7/8"** Length as per Rule **33 15/32"** Distance apart **8"** No. and pitch of stays
in each **2 @ 10 3/4" x 8"** Working pressure by Rules **206.2 lbs./sq.in.** Combustion chamber plates: Material **O.H. Steel**
Tensile strength **26-30 tons** Thickness: Sides **23/32"** Back **23/32"** Top **23/32"** Bottom **23/32"** **Welded Washers & Welded Over**
Pitch of stays to ditto: Sides **11" x 7 3/4"** Back **8 3/8" x 10 1/2"** Top **10 3/8" x 8"** Are stays fitted with nuts or riveted over **Welded Washers & Welded Over**
Working pressure by Rules **202 lbs./sq.in.** Front plate at bottom: Material **O.H. Steel** Tensile strength **26-30 tons**
Thickness **29/32"** Lower back plate: Material **O.H. Steel** Tensile strength **26-30 tons** Thickness **29/32"**
Pitch of stays at wide water space **14 3/8" x 10 1/2"** Are stays fitted with nuts or riveted over **Welded Washers & Welded Over**
Working pressure **214 lbs./sq.in.** Main stays: Material **O.H. Steel** Tensile strength **28-32 tons**
Diameter { At body of stay **3"** No. of threads per inch **6** Area supported by each stay **18 1/2" x 17 1/2" = 324 sq.in.**
Over threads **-**
Working pressure by Rules **207 lbs./sq.in.** Screw stays: Material **O.H. Steel** Tensile strength **26-30 tons**
Diameter { At turned off part **2", 1 1/2"** No. of threads per inch **9** Area supported by each stay **8 3/8" x 10 1/2" = 87.5 sq.in.**
Over threads **2", 1 1/2"**

Working pressure by Rules **207 lbs./sq.in.** the stays drilled at the outer ends **No** Margin stays: Diameter { At turned off part, **2"** or Over threads **-**

No. of threads per inch **9** Area supported by each stay **11 3/8" x 10 1/2" = 119.5 sq.in.** Working pressure by Rules **207 lbs./sq.in.**

Tubes: Material **Steel** External diameter { Plain **3** Thickness **5/16" & 1/4"** No. of threads per inch **9**

Pitch of tubes **4 1/8" x 4 3/16"** Working pressure by Rules **250 lbs./sq.in.** Manhole compensation: Size of opening

shell plate **-** Section of compensating ring **-** No. of rivets and diameter of rivet holes **-**

Outer row rivet pitch at ends **-** Depth of flange if manhole flanged **-** Steam Dome: Material **-**

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 **-** 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 **National Tube Company** Steel forgings **Penn. Forge Corp., Tacony, Pa.** Steel castings **-**

Number of elements **48** Material of tubes **O.H. Seamless** Internal diameter and thickness of tubes **.69 & .095**

Material of headers **O.H. Forged** Tensile strength **28-33 tons** Thickness **1 1/8"** Can the superheater be shut off and the boiler be worked separately **YES** 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 **1.767 sq.ins. (1 1/8" dia)** Are the safety valves fitted with easing gear **YES** Working pressure as per Rules **200** Pressure to which the safety valves are adjusted **205 lbs.** Hydraulic test pressure **2500 lbs./sq.in.** forgings **550 lbs./sq.in.** and after assembly in place **under working conditions** Are drain cocks of 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 **YES**

The foregoing is a correct description,

DOMINION BRIDGE CO. LIMITED Manufacturer

Dates of Survey while building { During progress of work in shops - - **Sept. 18, 20, 25, 27 Oct. 2, 4, 5, 11, 16, 18, 20, 23, 25.** Are the approved plans of boiler and superheater forwarded herewith (if not state date of approval.)

{ During erection on board-vessel - - **Jan. 11, 26. Feb. 1, 6, 1945** Total No. of visits **17**

Is this Boiler a duplicate of a previous case **Yes** If so, state Vessel's name and Report No. **S/S "ROCKWOOD PARK" Mtl. Rpt. No.**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **This BOILER has been constructed under Special Survey and in accordance with Approved Plans.**

The shell longitudinal and circumferential seams are welded by the Union Melt Process and have been tested and X-rayed in accordance with the Rules for Class 1 Pressure Vessels.

The longitudinal seams of the front and back end plates are welded by the Union Melt Process.

The BOILER was tested hydrostatically at 350 lbs. per sq. in. pressure and found tight.

The Safety Valves were adjusted under steam as stated above and the boiler examined under full working conditions with satisfactory results. The vessel is eligible to have the notation + L.M.C. 4,45 insofar as the boiler is concerned.

Survey Fee **1.00** charged on Hfx. rpt. 50205-1000
 Travelling Expenses (if any) **8.50** When applied for **Jan. 24 1945**
 When received **Jan. 19 1945**

Jan. H. Nairn & Weyl
Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 15 JUN 1945

Committee's Minute

Assigned

see minute on S.S. Rpt.