

# REPORT ON BOILERS.

Final Rpt. No. 6311

Received at London Office 15 NOV 1944

Date of writing Report **June 14, 1944** When handed in at Local Office **June 1, 1944** Port of **Montreal, Que.**

No. in Reg. Book. Survey held at **Montreal, Que.** Date, First Survey **April 20, 1944** Last Survey **May 24, 1944**

on the **S.S. "LISCOMB PARK"** (Number of Visits **12**) - Tons { Gross Net

Built at **Pictou, N. S.** By whom built **Foundation Maritime Limited** Yard No. **17** - When built **1944**

Engines made in **Three Rivers, Que.** By whom made **Canada Iron Foundries Ltd.** Engine No. **2025** When made **1944**

Boilers made at **LACHINE, QUE.** By whom made **DOMINION BRIDGE COMPANY LIMITED** Boiler No. **B1340 P-7** 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.** As 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 **24.5.44** No. of Certificate **1946** 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 Cookburn 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 **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 inter **Welded**

long. seams **Welded** Diameter of rivet holes in { circ. seams - long. seams - Pitch of rivets { - - -

Percentage of strength of circ. end seams { plate - rivets - Percentage of strength of circ. intermediate seam { plate - rivets -

Percentage of strength of longitudinal joint { plate - rivets - Working pressure of shell by Rules **204.3 lbs./sq.in.**

Thickness of butt straps { outer **None** inner **None** No. and Description of Furnaces in each Boiler **3 Morrison Corrugated**

Material **O.H. Steel** Tensile strength **26-30 tons** Smallest outside diameter **38 1/2"**

Length of plain part { top - bottom - Thickness of plates { crown **9/16"** bottom - Description of longitudinal joint **Lap Weld**

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** back **O.H. Steel** Tensile strength { **26-30 tons** Thickness { **29/32"** **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 **223 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 1/2" x 7/8"** Length as per Rule **33 15/32"** Distance apart **8"** No. and pitch of stays

in each **2 @ 10 1/2" 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"**

Pitch of stays to ditto: Sides **11" x 7 1/2"** 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"**

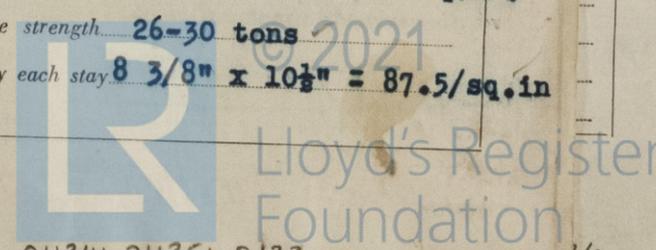
Pitch of stays at wide water space **14 3/8" x 10 1/2"** Are stays fitted with nuts or riveted over **Welded Washers & Welded Over**

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.** or 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, or Over threads **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.**



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 sq. in.** Working pressure by Rules **207 lbs./sq. in.**

Tubes: Material **Steel** External diameter { Plain **3** Stay **3** Thickness { **8 ISG** **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 in 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 **-** 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 **National Tube Co.** Steel forgings **Penn. Forge Corporation, 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 1/2" 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: tubes **2500 lbs./sq. in.** forgings ~~xxxxxxx~~ **550 lbs./sq. in.** and after assembly in place **Under working conditions** 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 **YES**

The foregoing is a correct description,  
**DOMINION BRIDGE CO. LIMITED** Manufacturer,  
*J. H. Hall*

Dates of Survey { During progress of work in shops - **April 20, 21, 25, 26 May 1, 4, 8, 12, 16, 18, 22, 24.** Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
 { During erection on board vessel - **Aug. 19th. Sept. 16, 21 & 22.** Total No. of visits **16**

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

**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.**

Survey Fee **100.00** } When applied for **25<sup>th</sup> Sept. 1944**  
 Travelling Expenses (if any) **18.50** } When received **19**

*J. H. Hall & W. J. Redick*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 24 NOV 1944**  
 Assigned **see minute on SR Rpt.**