

Rpt. 5a.
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REPORT ON BOILERS.

knib. Rpt.
No. 6104

23 JUN 1944

Date of writing Report **Feb. 25, 1944** When handed in at Local Office **Jan. 8, 1944** Port of **Montreal, Que.**

No. in Reg. Book. Survey held at **Montreal, Que.** Date, First Survey **Nov. 9, 1943** Last Survey **Dec. 27, 1943**

on the **S.S. BERESFORD PARK** (Number of Visits **14**)

Built at **Pictou, N.S.** By whom built **Foundation Maritime Limited** Yard No. **11** When built

Engines made at By whom made Engine No. When made

Boilers made at **Lachine, P.Q.** By whom made **DOMINION BRIDGE COMPANY LIMITED** Boiler No. **B1147** When made **1943**

Nominal Horse Power Owners Port belonging to

MULTITUBULAR BOILERS—MAIN, ~~APPROXIMATELY 1000 H.P.~~

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 **27.12.43** No. of Certificate **7457** Can each boiler be worked separately **Yes**

Area of Firegrate in each Boiler **43.25 sq.ft.** No. and Description of safety valves to each boiler **One Twin Cockburn Improved High Lift 2 1/4" dia. each**

Area of each set of valves per boiler { per Rule **6.72 sq. in.** 5-6 for 1 H.L. ex. sp. as fitted **7.95 sq. in.** Pressure to which they are adjusted 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 Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated

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 { Pitch of rivets { plate **--** 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 **--** combined **--** 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"** (Scale stays 41 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 1/4" x 17 3/4"**

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"** **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 **223 lbs./sq.in.**

Girders to combustion chamber tops: Material **O.H. Steel** Tensile strength **28-32 tons** Working Pressure { front **245 lbs./sq.in.** back **223 lbs./sq.in.**

at centre **2 @ 7 1/4" x 7/8"** Length as per Rule **33 15/32"** Distance apart **8"** Depth and thickness of girder

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 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 1/4" x 17 3/4" = 324 sq.in.**

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.**

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Working pressure by Rules **207 lbs./sq. in.** Are the stays drilled at the outer ends **No** Margin stays: Diameter { At turned off part, **2"** ✓
 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**
 Stay **3** **8 LSG**
 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 **--**
 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. Seamless** Tensile strength **ASTM Spec A 192-50** 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 **1.77 sq. in.** Are the safety valves fitted with easing gear **Yes** Working pressure as per Rules **200** Pressure to which the safety valves are adjusted **205** Hydraulic test pressure: tubes **2500 lb** forgings and castings **550** and after assembly in place **200** 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**

See Spec 28.8.24.

The foregoing is a correct description,
DOMINION BRIDGE CO. LIMITED Manufacturer.
per [Signature]

Dates of Survey while building { During progress of work in shops - - } **Nov. 9, 11, 15, 19, 23, 29**
 { During erection on board vessel - - } **Dec. 1, 3, 6, 8, 13, 16, 22, 27** Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
 Total No. of visits **--**

Is this Boiler a duplicate of a previous case **Yes** If so, state Vessel's name and Report No. **"ROCKWOOD PARK" Montreal Rpt. 574**

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 **17 March 1944**
 Travelling Expenses (if any) **--** : } When received **19**

[Signature]
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **THURS 29 JUN 1944**
 Assigned **see minute on Spec 28.8.24.**