

REPORT ON BOILERS.

med. Rpt.
No. 6215

2 OCT 1944

Received at London Office

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Date of writing Report **May 3, 1944** When handed in at Local Office **April 22, 1944** Port of **Montreal, Que.**

No. in Survey held at **Montreal, Que.** Date, First Survey **Feb. 22, 1944** Last Survey **March 25, 1944**

on the **S/S "BLOOMFIELD PARK"** (Number of Visits **11**)

Built at **St. John, N. B.** by whom built **St. John Dry Dock & Shipbuilding Co. Ltd.** Yard No. **18** When built **1944**

Engines made at **Three Rivers, Que.** By whom made **Canada Iron Foundries Ltd.** Engine No. **2022** When made **1944**

Boilers made at **LACHINE, QUE.** By whom made **DOMINION BRIDGE COMPANY LIMITED** Boiler No. **B1340** When made **1944**

Boiler No. **S 3**
Nominal Horse Power _____ Owners **Canadian Government** Port belonging to _____

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**

Number 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 **25.3.44** No. of Certificate **1939** 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 ft.** Is oil fuel carried in the double bottom under boilers **No**

Smallest distance between shell of boiler and tank top plating **2 Ft.** 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 _____ 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"**

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

Dimensions of stiffening rings on furnace or c.c. bottom _____ Working pressure of furnace by Rules **212 lbs./sq.in.**

Shell 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.**

Shell plates: Material { front **O.H. Steel** Tensile strength { **26-30 tons** Thickness { **29/32"**
back **O.H. Steel** **26-30 tons** **13/16"**

Working pressure 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.**

Stays to combustion chamber tops: Material **O.H. Steel** Tensile strength **28-32 tons** Depth and thickness of girder _____

Centre **2 @ 7 1/2" x 7/8"** Length as per Rule **33 15/32"** Distance apart **8"** No. and pitch of stays _____

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"**

Number 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"**

Working pressure 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**

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.**

Working pressure by Rules **207 lbs./sq.in.** Screw stays: Material **O.H. Steel** Tensile strength **26-30 tons**

At turned off part _____ 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.** Are 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"** Stay **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 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 **85** Thickness of shell **5/16"** 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 Tube** Tensile strength **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. In.** Are the safety valves fitted with easing gear **Yes** Working pressure as per Rules **205 lbs. per sq. in.** Hydraulic test pressure: tubes **2500 lbs.** forgings and castings **550 lbs.** and after assembly in place **Yes** 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.
per A.S. Hall

Dates of Survey while building { During progress of work in shops - - } **Feb. 22, 24 March 1, 3, 7, 8, 14, 16, 21, 23, 25 1944** Are the approved plans of boiler and superheater forwarded herewith (if not state date of approval.) **Yes**

{ During erection on board vessel - - } **June 9, 13, 24, July 8, 10, 12, 13, 25, 25, 31, August 4, 21, 23, Sept. 1, 4.** Total No. of visits **26**

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. 57**

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 square inch pressure and found tight.

This boiler has been installed in this vessel under Special Survey and in accordance with the Rules and approved plans. The materials and workmanship are of good quality. On completion of Official Sea Trials, this boiler was emptied, manhole doors removed for internal examination, and boiler found in good condition. The combustion chamber fire boxes and furnaces were also examined and found satisfactory.

Survey Fee **100.00** When applied for **12 July 1944**

Travelling Expenses (if any) **00.00** When received **19**

Weg. Redford & P.B. McChes.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **TUES. 10 OCT 1944**

Assigned **see minute on 1st Rpt.**

