

# REPORT ON BOILERS.

No. 6532

Received at London Office

26 JUL 1945

Date of writing Report **May 22nd 1945** When handed in at Local Office **May 22nd 1945** Port of **Vancouver, B.C.**

No. in Survey held at **Vancouver, B.C.**

Date, First Survey **Feb. 3rd, 1945** Last Survey **May 1st 1945**

on the **Steel Single Screw Steamer S.S. "RUPERT PARK"**

(Number of Visits **15**)

Tons { Gross **7147.68**  
Net **4214.11**

Built at **Vancouver, B.C.** By whom built **Burrard Dry Dock Co.** Yard No. **232** When built **1944-45**

Engines made at **Lachine, Que.**

By whom made **Dominion Engineering Works**

Engine No. **199** When made **1945**

Boilers made at **Vancouver, B.C.**

By whom made **Dominion Bridge Co.**

Boiler No. **825-818-827** When made **1945**

Nominal Horse Power **505**

Owners **Minister of Munitions & Supply of Canada (Mgrs. Park Steamship Co. Ltd.)**

Port belonging to **Montreal, Que.**

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

**Bethlehem Steel Co.**

**Carnegie Illinois Steel Corpn.**

Manufacturers of Steel

**Steel Co. of Canada**

**Page Hersey Tubes**

**Jones & Loughlin Steel Corpn., Algoma Steel Products Co. Ltd.**

(Letter for Record **S**)

Total Heating Surface of Boilers **7140 sq. ft. total**

Is forced draught fitted **Yes**

Coal or Oil fired **Either**

No. and Description of Boilers **Three-Single Ended Cylindrical Multitubular**

Working Pressure **220 lbs. per sq. ins.**

Tested by hydraulic pressure to **380 lbs.** Date of test **Feb. 15, 1945**

Area of Firegrate in each Boiler **51 sq. ft.** No. of Certificates **825-818-827**

Area of each set of valves per boiler { per Rule **6.35 sq. ins.** No. and Description of safety valves to each boiler **Two - 2-1/4" Morrison High Lift**

{ as fitted **7.95 sq. ins.** Pressure to which they are adjusted **220 lbs.** Are they fitted with easing gear **Yes**

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler **No 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 **14'-6-3/16"** Length **11'9" Ext.**

Shell plates: Material **O.H. Steel** Tensile strength **65000-77000 lbs.**

Thickness **1-13/32"** Are the shell plates welded or flanged **No**

Description of riveting: circ. seams { end **Double**

ong. seams **Treble Riv. Double Butt Strap**

Diameter of rivet holes in { circ. seams **1-1/2"**

{ long. seams **1-1/2"**

Pitch of rivets { **4-3/16" Approx.**

Percentage of strength of circ. end seams { plate **64.2%**

{ rivets **47.6%**

Percentage of strength of circ. intermediate seam { plate **85.1%**

{ rivets **92.8%**

Working pressure of shell by Rules **221.2 lbs.**

Percentage of strength of longitudinal joint { plate **88.7%**

{ rivets **88.7%**

Thickness of butt straps { outer **1-3/32"**

{ inner **1-7/32"**

No. and Description of Furnaces in each Boiler **3 Morrison Corrugated Stephen Gourlay end**

Material **O.H. Steel**

Tensile strength **55000-65000 lbs.**

Smallest outside diameter **41-9/16"**

Length of plain part { top **10"**

{ bottom **10"**

Thickness of plates { crown **21/32"**

{ bottom **21/32"**

Description of longitudinal joint **Forge Weld**

Dimensions of stiffening rings on furnace or c.c. bottom **--**

Working pressure of furnace by Rules **230.9 lbs.**

End plates in steam space: Material **O.H. Steel**

Tensile strength **55000-65000 lbs.**

Thickness **1-15/32"** Pitch of stays **21" x 21"**

How are stays secured **Double Nuts & 6-3/4" x 1/4" washer each end**

Working pressure by Rules **230.3 lbs.**

Tube plates: Material { front **O.H. Steel**

{ back **O.H. Steel**

Tensile strength { **55000-65000 lbs.**

{ **58000-68000 lbs.**

Thickness { **1"**

{ **13/16"**

Lean pitch of stay tubes in nests **9.8"**

Pitch across wide water spaces **8-1/4" x 14-1/2"**

Working Pressure { front **245 lbs.**

{ back **247 lbs.**

Girders to combustion chamber tops: Material **O.H. Steel**

Tensile strength **65000 - 75000 lbs.**

Depth and thickness of girder

Double **10-1/4" x 7/8"** Length as per Rule **34"**

Distance apart **11"**

each **3 - 7-3/8"**

Working pressure by Rules **261.6 lbs.**

Combustion chamber plates: Material **O.H. Steel**

Tensile strength **58000 - 68000 lbs.**

Thickness: Sides **25/32"**

Back **23/32"**

Top **25/32"**

Bottom **25/32"**

itch of stays to ditto: Sides **9" x 10-3/16"**

Back **9" x 8 1/2" Cent. C.C.**

Top **7-3/8" x 11"**

Are stays fitted with nuts or riveted over **Nuts**

Working pressure by Rules **224 lbs.**

Front plate at bottom: Material **O.H. Steel**

Tensile strength **55000-65000 lbs.**

Thickness **1"**

Lower back plate: Material **O.H. Steel**

Tensile strength **55000-65000 lbs.**

Thickness **15/16"**

itch of stays at wide water space **9" x 14-1/2"**

Are stays fitted with nuts or riveted over **Nuts**

Working pressure **232 lbs.**

Main stays: Material **O.H. Steel**

Tensile strength **63000-73000 lbs.**

diameter { At body of stay **3-1/2"**

{ or **3-3/4"**

No. of threads per inch **6**

Area supported by each stay **441 sq. ins.**

Working pressure by Rules **245 lbs.**

Screw stays: Material **O.H. Steel**

Tensile strength **58000-68000 lbs.**

diameter { At turned off part **1.606**

{ or **1.75"**

No. of threads per inch **9**

Area supported by each stay **81 sq. ins.**



The foregoing is a correct description,  
*Dominion Bridge Co Ltd*  
*per J Moss* Manufacturer.

Dates of Survey while building	During progress of work in shops - -	Feb. 3, 5, 7, 10, 15, 21, 26, 27	Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval).	Yes
	During erection on board vessel - -	Mar. 12, 22, Apr. 16, May 1, 2, 3, 7.	approved plans forwarded with Vcr. Rpt. No. 6450	
		Total No. of visits	15	

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. S.S. "FAIRMOUNT PARK" Ver. Rpt. No. 6450.

Is this Boiler a duplicate of a previous case. 100 3-25-01.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under Special Survey of tested materials in accordance with the approved plans, New York letters and otherwise in conformity with the Society's Rules. On completion, the boilers were satisfactorily tested under hydraulic pressure to 380 lbs. per sq. inch. They were fitted on board under Special Survey, examined under working conditions, safety valves adjusted under steam to the working pressure and a satisfactory accumulation test carried out.

Cross seams of both end plates are fusion welded by Union Melt Process; stress relieved under Survey. Welds ground flush both sides of plate. Combustion chambers wrapper plates welded to back tube plate and combustion chamber back plate; butts of combustion chamber wrapper plates also welded, all hand welding, tested as per Rule and ground flush.

A circumferential fracture developed in the Port furnace of centre boiler in way of horse collar. Defect cut out for a length of about 26' and carefully electrically welded.

Limiting holes drilled at each end of fracture and plugged.

It is recommended that this furnace be renewed within twelve months before the end of May, 1941

Survey Fee ... .. \$150.00 } When applied for 15th May 19 45 *W*

Travelling Expenses (if any) \$ 15.00 } When received ✓ 19 45

*R. Knox & G. B. M. Coleman*  
Engineer Surveyor to Lloyd's Register of Shipping.

### Committee's Minute.

Assigned Su F.F. machy. rpt.