

REPORT ON BOILERS.

28 DEC 1945

Received at London Office

mut. Rpt.
No. 6676

Date of writing Report 20th April 1945 When handed in at Local Office 14th April 1945 Port of MONTREAL, Que.

No. in Survey held at MONTREAL, Que. Date, First Survey Feb. 8th, 1945 Last Survey April 5th, 1945
Reg. Book. Montreal: Saint John: Sept. 1 (Number of Visits 15) 2894
St. John - 20 Tons { Gross 2894
Net 1649

on the S.S. "SHAKESPEARE PARK"

Built at Saint John, N.B., whom built St. John Dry Dock & Shipbuilding Co. Limited Yard No. 21 When built 1945

Engines made at Three Rivers, Que. By whom made Canada Iron Foundries Ltd. Engine No. 2043 When made 1945
B. 1509

Boilers made at LACHINE, Que. By whom made DOMINION BRIDGE COMPANY LIMITED Boiler No. P. 6 When made 1945

Nominal Horse Power 268.81 269 Owners Canadian Government Port belonging to Montreal

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY

Manufacturers of Steel Bethlehem, Steel Co. of Canada, Lukens, etc. (Letter for Record S ✓)

Total Heating Surface of Boilers 1927 Sq. ft. ✓ each 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 April 5th, 1945 No. of Certificate 6784 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 1/2" dia. each.

Area of each set of valves per boiler { per Rule 6.72 sq. in. ✓ Pressure to which they are adjusted 200 ✓ 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 Welded ✓
inter Welded ✓

long. seams WELDED ✓ Diameter of rivet holes in { circ. seams - Pitch of rivets { -
long. seams -

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

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

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

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 - bottom -

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 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 ✓ 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 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 20 7 3/4" x 7/8" ✓ Length as per Rule 33 15/32" ✓ Distance apart 8" ✓ No. and pitch of stays

in each 20 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" ✓

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 and 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 3/4" - 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, - No. of threads per inch 9" ✓ Area supported by each stay 8 3/8" x 10 1/2" - 87.5/sq. in.
or -
Over threads 2", 1 3/4" ✓

Rpt. 5a (cont'd) Dominion Bridge Boiler No. B 1509 P.6

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 { 8 LSG. 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 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 Are the safety valves fitted with easing gear Yes Working pressure as per Rules 207 lbs. 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. Are drain cocks or valves fitted to free the superheater from water where necessary Valves fitted

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 - Feb. 8th, 14, 19, 22, 27, and 28th. March 2nd, 8, 12, 14, 19, 21, and 26th. April 4th and 5th. During erection on board vessel - Sept. 1, 11, 18, 24, 26, Oct. 1, 3, 8, 12, 13, 17, 23, 30, 31, Nov. 2, 18, 14, 15, 16, 18. Total No. of visits 35

Is this Boiler a duplicate of a previous case YES If so, state Vessel's name and Report No. S.S. "ROCKWOOD PARK", Montreal P.Q. Rpt. 5740

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 Oct. 3rd 19 45
 Travelling Expenses (if any) 21 50 : } When received 19

Applied for at Saint John, N.B. - Nov. 28/45
 [Signature] Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 18 JAN 1946
 Assigned - See F.E. machy. rpt.

