

REPORT ON BOILERS.

Received at London Office

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

No. in Reg. Book Survey held at Montreal, Que. Date, First Survey Feb. 8th, 1945 Last Survey April 10th, 1945
St. John: Sept. 1 *Nov. 18/45*

on the S.S. "SHAKESPEARE PARK" (Number of Visits 16) Tons { Gross 2894 Net 1649

Built at Saint John, N.S. By 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. S. 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. 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 10th, 1945 No. of Certificate 6785 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

Area of each set of valves per boiler { per Rule 6.72 sq. in. as fitted 7.95 sq. in. Pressure to which they are adjusted 200 Are they fitted with easing gear Yes. 2 1/2" dia. each

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

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

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 and 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"

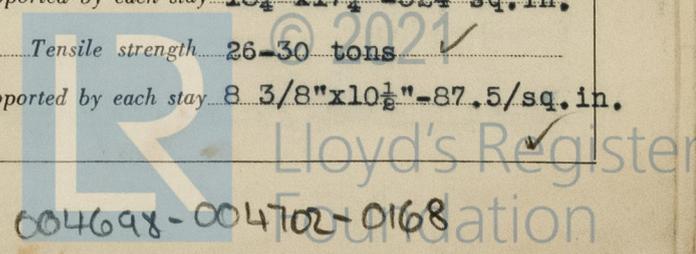
Pitch of stays at wide water space 14 3/8" x 10 1/2" Are stays fitted with nuts or riveted over Welded washers and welded over.

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.

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.



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

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"x10 1/2" - 119.5 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" ✓
 Pitch of tubes 4 1/8"x4 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 ~~XXXXXX~~ 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.
J. H. Hall

Dates of Survey { During progress of work in shops - Feb. 8, 14, 19, 22, 27, and 28th.
 Mar. 2, 8, 12, 14, 19, 21, and 26th.
 April 4, 5, and 10th. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
 During erection on board vessel - { Sept. 1, 11, 18, 24, 26, Oct. 1, 3, 8, Total No. of visits 36
 12, 13, 17, 23, 30, 31; Nov. 2, 8, 14, 15, 16, 18,

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 1945
 Travelling Expenses (if any) - : } When received 19

Applied for at Saint John, N.B. - Nov. 28/45
W. H. McCall
 Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 18 JAN 1946

Committee's Minute
 Assigned See F.E. machy rpt.

