

knli. Rpt.
No. 6644

REPORT ON BOILERS.

Rpt. 5a

Received at London Office 20 SEP 1945

13th. August 45
 23rd Mch. 1945
 Date of writing Report

14th. August 1945
 Feb. 10 1945
 When handed in at Local Office

Port of MONTREAL, Que. & QUEBEC, QUE.

1st. February
 7th Nov. 1944
 Date, First Survey

9th. August 1945
 19th Dec. 1944
 Last Survey

Survey held at MONTREAL & LAUZON

(Number of Visits 13 & Continuous attendance Gross 2963.40 Tons Net 1635.10)

on the S.S. "CARTIER PARK"

Built at Lauzon, Levis, By whom built Geo. T. Davie & Sons Limited Yard No. 33- When built 1945

Engines made at THREE RIVERS By whom made CANADA IRON FOUNDRIES LTD. Engine No. 2037 When made 1945 B 1421

Boilers made at LACHINE, Que. By whom made DOMINION BRIDGE CO. LIMITED Boiler No. S.10 When made 1944

Owners. CANADIAN GOVERNMENT (Mgrs. PARK S.S.CO.LTD.) Port belonging to MONTREAL.

nominal Horse Power 268.81

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 boiler Is forced draught fitted Yes Coal or Oil fired Coal Working Pressure 200 lbs/sq.in.

No. and Description of Boilers 1 SINGLE ENDED MULTITUBULAR

Tested by hydraulic pressure to 350 lbs/sq.in. Date of test 19/12/44 No. of Certificate 4588 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. as fitted 7.95 sq.in. Pressure to which they are adjusted 200 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

Smallest distance between boilers and bunkers 2'-0" Is oil fuel carried in the double bottom under boilers YES

Smallest distance between shell of boiler and tank top plating 2'-0" 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 { plate rivets

Percentage of strength of circ. end seams { plate rivets combined Working pressure of shell by Rules 204.3 lbs/sq.in.

Percentage of strength of longitudinal joint { plate rivets combined

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 16" 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 1/2"

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 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 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" Welded washers & welded over

Pitch 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

Working pressure by Rules 202 lbs/sq.in. Front plate at bottom: Material O.H. steel Tensile strength 26-30 tons Thickness 29/32"

Thickness 29/32" Lower back plate: Material O.H. Steel Tensile strength 26-30 tons Thickness 29/32" Welded washers & welded over

Pitch of stays at wide water space 14 3/8" x 10 1/2" Are stays fitted with nuts or riveted 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 3/4" 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. the stays drilled at the outer ends no Margin stays: Diameter 2" At turned off part, 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" x 1/4" No. of threads per inch 9

Pitch of tubes 4 1/8" x 3/16" Working pressure by Rules 250 lbs/sq. in. Manhole compensation: Size of opening in shell plate

Section of compensating ring

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 1.76 Sq. ins. Are the safety valves fitted with easing gear No Working pressure as per Rules

Pressure to which the safety valves are adjusted 200 Lbs. Sq. ins. Hydraulic test pressure: tubes 2500 lbs/sq. in. forgings and castings 550 lbs/sq. in. and after assembly in place 400 Lbs. Sq. Ins. Are drain cocks 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 J. Hall

Dates of Survey while building { During progress of work in shops - - } Nov. 7, 13, 14, 16, 23 and 28th. Dec. 1, 4, 5, 7, 12, 15 and 19th. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

{ During erection on board vessel - - } 1ST. FEBRUARY TO 9TH. AUGUST 1945 Total No. of visits Continuous attendance

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 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 sq. in. pressure and found tight.

This BOILER has been satisfactorily fitted aboard this Vessel, and examined under Steam. The Safety Valves have been adjusted under steam, tested for accumulation and thickness of Washers noted.

This Vessel is eligible in my opinion for record of **L.M.C. 8,45.**

Survey Fee 162 ⁵⁰ When applied for 6th Sept. 1945

Travelling Expenses (if any) Included When received 19

in Hull Rpt.

J. Falkitt
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI, 28 SEP 1945

Assigned Sa F.E. machy sp.

