

# REPORT ON BOILERS.

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No. 19 pl. 5781

Rpt. 5a.

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Received at London Office. 12 FEB 1943

Date of writing Report Aug. 25th 19 42 When handed in at London Office Aug. 25th 19 42 Port of MONTREAL, QUE.

No. in Reg. Book. Survey held at MONTREAL, QUE. Date, First Survey June 23/1942 Last Survey Aug. 14th 19 42

on the Single Screw Steamer "FORT ST. FRANCOIS" (Number of Visits 20) Gross 7124.84 Net 4242.99

Built at LAUZON, LEVIS, P.Q. By whom built DAVIE SHIPBUILDING & REPAIRING CO. LTD. Yard No. 540 When built 1942

Engines made at Lachine P.Q. By whom made Dominion Eng. Works Ltd. Engine No. 49 When made 1942

Boilers made at MONTREAL, P.Q. By whom made DOMINION BRIDGE COMPANY, LTD. Boiler No. B968 When made 1942

Nominal Horse Power 509 Owners Ministry of War Transport Port belonging to

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

Manufacturers of Steel Bethlehem Steel, Steel Co. of Canada, Dominion Foundry & Steel, (Letter for Record S)

Total Heating Surface of Boilers 2380 square feet - 7140 Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers Three Single Ended Multitubular Working Pressure 220 lbs. per sq. in.

Tested by hydraulic pressure to 380 Date of test 7-8-42 No. of Certificate C 4073 Can each boiler be worked separately Yes

Area of Firegrate in each boiler 51 sq. ft. No. and Description of Safety valves to each boiler One Double Spring Safety Valve

Area of each set of valves per boiler {per Rule 8.87 sq. in. as fitted 7.95 sq. in. 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 - -

Smallest distance between boilers or uptakes and bunkers or woodwork 6' - 0" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 2' - 0" Is the bottom of the boiler insulated Yes

Largest internal diameter of boilers 14'-6-3/16" Length 11' - 9" Shell plates: Material O H Steel Tensile strength 29-33 tons per sq. in.

Thickness 1-13/32" Are the shell plates welded or flanged No Description of riveting: circ. seams {end Double inter. -

Long. seams Triple zig zag Diameter of rivet holes in {circ. seams 1 1/2" long. seams 1 1/2" Pitch of rivets {4-3/16" 10-1/16"

Percentage of strength of circ. end seams {plate 64.0% rivets 47.0% Percentage of strength of circ. intermediate seam {plate - rivets -

Percentage of strength of longitudinal joint {plate 85.6% rivets 92.9% combined 83.7%

Thickness of butt straps {outer 1-3/32" inner 1-7/32" No. and Description of Furnaces in each Boiler 3 Morrison Corrugated

Material O H Steel Tensile strength 26-30 tons Smallest outside diameter 41 inches

Length of plain part {top - bottom - Thickness of plates {crown 2 1/32" bottom 3/32" Description of longitudinal joint lap weld -

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

End plates in steam space: Material O H Steel Tensile strength 26-30 tons Thickness 1-7/16" Pitch of stays 21" x 21"

How are stays secured Inside and outside nuts -

Tube plates: Material {front O H Steel back O H Steel Tensile strength {26/30 tons Thickness {31/32" 13/16"

Mean pitch of stay tubes in nests 10-5/8" x 8 1/2" = 9.4375 Pitch across wide water spaces 14 1/2"

Girders to combustion chamber tops: Material O H Steel Tensile strength 29/33 tons Depth and Thickness of girder

at centre 2 @ 10 1/4" x 7/8" Length as per Rule 34 inches Distance apart 11 inches No. and pitch of stays

in each 3 @ 7-5/8" Combustion chamber plates: Material O H Steel

Tensile strength 26/30 tons Thickness: Sides 25/32" Back 23/32" Top 25/32" Bottom 25/32"

Pitch of stays to ditto: Sides 10-3/16" x 9" Back 9" x 9" Top 11" x 7-5/8" Are stays fitted with nuts or riveted over nutted -

Front plate at bottom: Material O H Steel Tensile strength 26-30 tons -

Thickness 31/32" Lower back plate: Material O H Steel Tensile strength 26-30 tons Thickness 29/32"

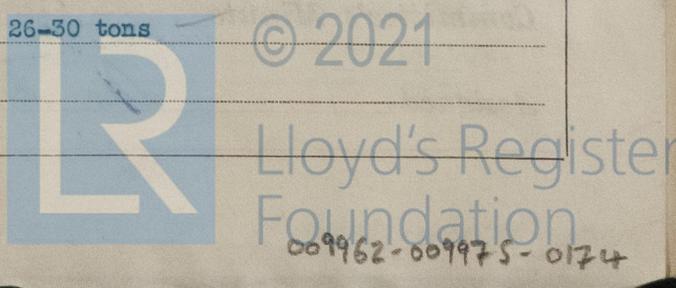
Pitch of stays at wide water space 11 1/2" x 9" Are stays fitted with nuts or riveted over Nutted -

Main stays: Material O H Steel Tensile strength 28-32 tons

Diameter {At body of stay, 3 1/2 inches or - No. of threads per inch 6

Screw stays: Material O H Steel Tensile strength 26-30 tons

Diameter {At turned off part, or 1 1/2" No. of threads per inch 9



Are 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  
 Tubes: Material Steel External diameter { Plain 3" Stay 3" Thickness { 8 SWG 5/16" & 3/8" No. of threads per inch 9  
 Pitch of tubes 10-5/8" x 8 1/4" Manhole compensation: Size of opening in shell plate None Section of compensating ring - - No. of rivets and diameter of rivet holes - -  
 Outer row rivet pitch at ends - - Depth of flange if manhole flanged 4 1/2" in back end plate 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 - - Thickness of crown - - No. and diameter of stays - - Inner radius of crown - -  
 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. Penn. Steel forgings The Superheater Co. Sherbrooke P.Q. Steel castings " " " "  
 Number of elements 58 Material of tubes S.D. Steel Internal diameter and thickness of tubes .69 .095  
 Material of headers O H Steel Tensile strength 33.5 tons Thickness 1-1/8" min. 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 -  
 Pressure to which the safety valves are adjusted 220 lbs. per sq. ins. Hydraulic test pressure: tubes 1500 lbs. per sq. in. forgings and castings 700 lbs. per sq. in. and after assembly in place 400 lbs. per sq. in. 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**  
*per A. S. Hance* Manufacturer.

Dates of Survey { During progress of work in shops - - } June 23, 24, 29, 30, July 2, 3, 4, 9, 11, 16, 20, 24, 31, Aug. 3, 5, 7, 10, 12, 14  
 while building { During erection on board vessel - - } June 18, 26, July 1, 3, 10, 22, 24, Aug: 6, 12, 21, Sept: 2, 5, 10, 16 (2), 22, 29, Oct: 3, 8, 16, 21, 28, Nov: 7, 14, 19, 24, 30, Dec: 11, 16.  
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
 Total No. of visits 19 & 29 = 48

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. S.S. "FORT SADOUSSAC" S.S. "PRINCE ALBERT PARK"

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) **These BOILERS have been constructed under Special Survey, and in accordance with the Approved Plans. The materials and workmanship are good. They were tested hydrostatically at 380 lbs. per square inch pressure, and found good.**  
**The longitudinal seams of the front and back end plates of these BOILERS have been welded by the Union Melt Process. For further particulars see Approved Plans and results of tests.**  
**These BOILERS have been properly installed, and the safety valves adjusted under steam at 220 lbs. per square inch, and washers noted.**

Survey Fee ... \$ 150.00 : When applied for, Jan 16 19 43  
 Travelling Expenses (if any) chgt. with haul Rpt. : When received, 19

*A. G. Pidditch & D. J. Salt*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 23 FEB 1943  
 Assigned See Inv. J.E. 5781

