

# REPORT ON BOILERS.

No. 5740

20 APR 1943

Rpt. 5a.  
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Received at London Office

Date of writing Report Oct. 24th 1942 When handed in at London Office Oct. 21 1942 Port of MONTREAL, QUE.

No. in Survey held at MONTREAL, QUE. Date, First Survey 8th May, 1942 Last Survey 22nd October 1942

Reg. Book. Saint John Date, 1st Survey Aug. 7, 1942 (Number of Visits 26) Last Survey Feb. 20, 1943 Gross 2877 Tons Net 1655

Built at SAINT JOHN, N.B. By whom built ST. JOHN SHIPBUILDING & DRY DOCK CO. LIMITED Yard No. 14 When built 1942

Engines made at MONTREAL, QUE. By whom made DOMINION BRIDGE COMPANY LTD. Engine No. 2001 When made 1942

Boilers made at MONTREAL, QUE. By whom made DOMINION BRIDGE COMPANY LTD. Boiler No. B1042 P1 When made 1942

Nominal Horse Power 269 Owners H.M. the King, in right of Canada, represented by the Minister of Munitions and Supply, Ottawa. Port belonging to Montreal

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

Manufacturers of Steel Bethlehem Steel Co; Steel Co. of Canada, Trenton Steel Co; Dom. Foundries & Steel (Letter for Record S)

Total Heating Surface of Boilers 2 Boilers 3854 square feet Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers 2 Multitubular Scotch Boilers Working Pressure 200 lbs. per sq. in.

Tested by hydraulic pressure to 350 per sq. in. Date of test 22.10.42 No. of Certificate 4575, 4576 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 1/4" each

Area of each set of valves per boiler { per Rule 6.72 sq. in. as fitted 7.952 sq. in. Pressure to which they are adjusted 200 lbs. per sq. in. 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 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 diameter of boilers 13'-6" Length 11'-6" Shell plates: Material 0 H Steel Tensile strength 29-33 tons

Thickness 1-9/32" Are the shell plates Welded flanged No Description of riveting: circ. seams { end Welded (Union Melt) inter. -

Long. seams Welded (Union Melt) 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 -

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

Material 0 H Steel Tensile strength 26-30 tons Smallest outside diameter 3'-5-5/8"

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 -

End plates in steam space: Material 0 H Steel Tensile strength 26-30 tons Thickness 1-3/16" Pitch of stays 17 3/4" x 18 1/4"

How are stays secured Inside and Outside Nuts

Tube plates: Material { front 0 H Steel back 0 H Steel Tensile strength { 26-30 tons Thickness { 29/32"

Mean pitch of stay tubes in nests 10-3/8" Pitch across wide water spaces 14" x 8 1/4"

Girders to combustion chamber tops: Material 0 H Steel Tensile strength 28-32 tons Depth and Thickness of girder

at centre 7 3/4" x 7/8" Length as per Rule 2'-9-15/32" Distance apart 8" centre to centre No. and pitch of stays

in each 2 - 10 3/4" Combustion chamber plates: Material 0 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 10-3/4" x 8" Are stays fitted with nuts or riveted over Welded washers & welded over

Front plate at bottom: Material 0 H Steel Tensile strength 26-30 tons

Thickness 29/32" Lower back plate: Material 0 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 & welded over

Main stays: Material 0 H Steel Tensile strength 28-32 tons

Diameter { At body of stay 3 1/4" Over threads 2 1/4" No. of threads per inch 6

Screw stays: Material 0 H Steel Tensile strength 26-30 tons

Diameter { At turned off part 2" Over threads 1-3/4" No. of threads per inch 9



Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, or Over threads 2"   
 No. of threads per inch 9   
 Tubes: Material 0 H Steel External diameter { Plain 3" Stay 3" Thickness { #8 L S G 5/16" & 1/4" No. of threads per inch 9   
 Pitch of tubes 4-1/8" x 4-3/16" 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 - 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., Ellwood City Pa. Steel forgings - Steel castings -   
 Number of elements 48 Material of tubes 0 H Seamless Steel Internal diameter and thickness of tubes .69 .095 13 B W G   
 Material of headers 0 H Seamless Tube Tensile strength - 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 sq. ins. Are the safety valves fitted with easing gear Yes   
 Pressure to which the safety valves are adjusted 217 lbs. per sq. inch Hydraulic test pressure: tubes 2500 lbs. forgings and castings 550 lbs. and after assembly in place - 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 AS Hall Manufacturer.

Dates of Survey { During progress of work in shops -- May 8, 13, July 10, 16, 20, 30, Aug. 10, 11, 21, 25, Sept. 1, 3, 9, 12, 14, 15, 19, 24, 29, 30, Oct. 5, 7, 13, 15, 19, 22   
 while building { During erection on board vessel -- 1942: Nov. 6, 7, 10, 18, 24, 25, 26, 1943: Jan. 4, 7, 8, 9, 11, 12, 14, 15, 19, 22, 25, 26, 28, 29, Feb. 5, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20   
 (If not state date of approval) 88 visits   
 Total No. of visits 88

Is this Boiler a duplicate of a previous case - If so, state Vessel's name and Report No. -

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. The shell longitudinal and circumferential end 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 BOILERS were tested hydrostatically at 350 lbs. per square inch pressure and found tight.

These boilers were installed in this vessel under special survey, and in accordance with the Rules and approved plans. The materials and workmanship are of good quality. Both Port and Starboard boilers were emptied and manhole doors removed for an internal examination after the official dock steaming trial and were both found in good condition. The combustion chamber fire boxes were examined at this time and found satisfactory. After the official Sea Trial, the Port boiler was emptied and manhole doors removed for an internal examination and found in good condition. The combustion chamber fire boxes were also examined at this time and found satisfactory.

Survey Fee ... \$200.00   
 Travelling Expenses (if any) Included with Engine Report

February 27, 1943 } Applied for by Saint John, N.B. office - March 23, 1943.   
 When applied for, Oct. 30th 1942   
 When received, 19

W. J. Pilditch - P. B. McChes.   
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

FRI. 7 MAY 1943

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