

REPORT ON BOILERS.

mtd. Rpt.
No. 6532

Received at London Office

31 JUL 1945

Date of writing Report 12th April 1945 When handed in at Local Office 24th March 1945 Port of MONTREAL, Que.

No. in Reg. Book. Survey held at MONTREAL

Date, First Survey 17th January

Last Survey Feb. 28th

1945.

(Number of Visits 14)

Tons { Gross 2930
Net 1622

on the S.S. "LORNE PARK"

Built at Pictou, Nova Scotia from built Foundation Maritimes Yard No. 24 When built 1945 Ltd.

Engines made at Three Rivers, Que.

By whom made Canada Iron Foundries Ltd.

Engine No. 2041 When made 1945

Boilers made at LACHINE, P.Q.

By whom made DOMINION BRIDGE COMPANY LIMITED

Boiler No. P 4 When made 1945

Nominal Horse Power 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 bl.

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 Feb. 28th 1945. No. of Certificate 6780

Can each boiler be worked separately. Yes

Area of Firegrate in each Boiler 43.25 sq. ft. 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

Smallest distance between boilers or uptakes and bunkers or ~~woodwork~~ 2' 3" 2' 0"

Is oil fuel carried in the double bottom under boilers NO

YES

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

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

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 - 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 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 back O.H. Steel Tensile strength { 26-30 tons 26-30 tons Thickness { 29/32" 13/16"

Lean 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.

Risers to combustion chamber tops: Material O.H. Steel Tensile strength 28-32 tons Depth and thickness of garter

At centre 2 @ 7 1/2" x 7/8" Length as per Rule 33 15/32" Distance apart 8" No. and pitch of stays

At 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 and

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 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 1/2" = 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.

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"x10 1/2"-119.5 Working pressure by Rules 207 lbs/sq. in.

Tubes: Material Steel External diameter { Plain 3 Stay 3 Thickness { sq. in. 5/16" & 1/4" No. of threads per inch 9

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 -

How connected to shell - Inner radius of crown - Working pressure by Rules -

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 sq. ins. (1 1/8" dia.) Are the safety valves fitted with easing gear Yes Working pressure as per Rules 200 Pressure to which the safety valves are adjusted 205 lbs. Hydraulic test pressure: tubes 2500 lbs/sq. in. forgings and castings 550 lbs/sq. in. and after assembly in place under working conditions 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 Manufacturer.
per ASHALL

Dates of Survey { During progress of work in shops - - Jan. 17, 18, 22, 25, 26, 29th and 31st. Feb. 2, 8, 14, 19, 22, 27th and 28th. May 11, 22. June 22, 28, 29 } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

building { During erection on board vessel - - } Total No. of visits 19

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.

The safety valves were adjusted under steam as stated above and the boiler examined under full working conditions with satisfactory results. The vessel is eligible to have the notation L.M.C. 7,45 insofar as the boiler is concerned.

Survey Fee 100.00 } When applied for 26 June 1945
Travelling Expenses (if any) 22.00 } When received 19

per H. Naim & R. G. Riedel
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 3. AUG 1945
Assigned See F.E. machy. rph