

REPORT ON WATER TUBE BOILERS.

Received at London Office. 17 APR 1944

Date of writing Report: **22nd Feb. 1944** When handed in at Local Office: **22nd Feb. 1944** Port of: **Vancouver, B.C.**
 No. in Survey held at: **Vancouver, B.C.** Date, First Survey: **16th Nov. 1943** Last Survey: **19th Feb. 1944**
 Reg. Bk. on the: **Steel Single Screw Steamer "FORT WALLACE"** (Number of Visits: **28**) {Gross **7160.62**
 Tons {Net **4244.65**
 Built at: **North Vancouver, B.C.** By whom built: **Burrard Dry Dock Co. Ltd.** When built: **1944**
 Engines made at: **Lachine, Que.** By whom made: **Canadian Allis Chalmers Ltd.** When made: **1944**
 Boilers made at: **Vancouver, B.C.** By whom made: **Vancouver Iron Works, Ltd.** When made: **1944**
 Nominal Horse Power: **628** Owners: **Minister of Munitions & Supply of Canada** Port belonging to: **---**

WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY—Manufacturers of Steel: **Steel Co. of Canada (Page Hersey tubes) Combustion Eng. Co. Chattanooga, Tenn.**

Date of Approval of plan: **17-7-43** Number and Description or Type of Boilers: **2 Simous Header Watertube** Working Pressure: **250 lbs. (Spt. 230 lbs.)** Tested by Hydraulic Pressure to: **425 lbs.** Date of Test: **25-11-43 & 26-11-43**
 No. of Certificate: **618--620** Can each boiler be worked separately: **Yes** Total Heating Surface of Boilers: **9704 sq. ft. (2 Blrs)**
 forced draught fitted: **Yes** Area of fire grate (coal) in each Boiler: **---**

No. and type of burners (oil) in each boiler: **4 Todd "Hex - Press" Burners** No. and description of safety valves on each boiler: **One Twin 4" spring loaded** Area of each set of valves per boiler: **---**
 per rule **22.9 sq. in.** as fitted **25.14 sq. in.** Pressure to which they are adjusted: **250 lbs.** in case of donkey boilers state whether steam from main boilers can enter donkey boiler: **---** Height of boiler: **16'-5 3/8"**

Smallest distance between boilers or uptakes and bunkers or woodwork: **23"** Width and Length: **14'-7 1/2" x 18'-7 1/2"** Steam Drums:—Number in each boiler: **One** Inside diameter: **47 3/8"**
 Thickness of plates: **15/16"** Range of Tensile Strength: **70,000 to 82,000 lbs.** Are drum shell plates welded or flanged: **Welded** If fusion welded, state name of welding firm: **Vancouver Iron Works, Ltd.** Have all the requirements of the rules for Class I vessels been complied with: **Yes**

Description of riveting:—Cir. seams: **---** long seams: **---** Diameter of rivet holes in long seams: **---** Pitch of rivets: **---** Thickness of straps: **---** Percentage strength of long joint:—Plate: **---** Rivet: **---** Diameter of tube holes in drum: **4-1/32"** Pitch of tube holes: **7"**
 Percentage strength of shell in way of tubes: **42.5%** Steam Drum Heads or Ends:—Range of tensile strength: **65,000 to 77,000 lbs.** Thickness of plates: **15/16"** Radius or how stayed: **38"** Size of manhole or handhole: **12" x 16"** Water Drums:—Number in each boiler: **One** Inside Diameter: **5 1/2" sq.** Thickness of plates: **3/4"** Range of tensile strength: **60000-70000 lbs.** Are drum shell plates welded or flanged: **Solid drawn** If fusion welded, state name of welding firm: **---** Have all the requirements of the rules for Class I vessels been complied with: **---** Description of riveting:—Cir. seams: **---** long seam: **---**

Diameter of rivet holes in long seams: **---** Pitch of rivets: **---** Thickness of straps: **---** Percentage strength of long joint:—Plate: **---** Rivet: **---** Diameter of tube holes in drum: **4-1/32"** Pitch of tube holes: **7"**
 Percentage strength of drum shell in way of tubes: **42.5%** Water Drum Heads or Ends:—Range of Tensile strength: **60,000 to 70,000 lbs.** Thickness of plates: **9/16" min.** Radius or how stayed: **Handholes in end** Size of manhole or handhole: **4 1/2" x 5 1/2"**

Leaders or Sections:—Number: **22** Material: **Steel** Thickness: **9/16"** Tested by Hydraulic Pressure to: **500 lbs.** Tubes:—Diameter: **2" & 4"** Thickness: **10&6 BWG (.134" & .203")** Number: **602-2". 44-4"** Steam Dome or Collector:—Description of joint to Shell: **---** Inside diameter: **---** Thickness of shell plates: **---** Range of tensile strength: **---** Description of longitudinal joint: **---** If fusion welded, state name of welding firm: **---** Have all the requirements of the rules for Class I vessels been complied with: **---** Diameter of rivet holes: **---** Pitch of rivets: **---** Thickness of straps: **---** Percentage strength of long joint: **---** Plate: **---** Rivet: **---**

Percentage strength of long joint:—Plate: **---** Rivet: **---** Diameter of tube holes in drum: **4-1/32"** Pitch of tube holes: **7"**
 Percentage strength of drum shell in way of tubes: **42.5%** Water Drum Heads or Ends:—Range of Tensile strength: **60,000 to 70,000 lbs.** Thickness of plates: **9/16" min.** Radius or how stayed: **Handholes in end** Size of manhole or handhole: **4 1/2" x 5 1/2"**

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Percentage strength of long joint:—Plate: **---** Rivet: **---** Diameter of tube holes in drum: **4-1/32"** Pitch of tube holes: **7"**
 Percentage strength of drum shell in way of tubes: **42.5%** Water Drum Heads or Ends:—Range of Tensile strength: **60,000 to 70,000 lbs.** Thickness of plates: **9/16" min.** Radius or how stayed: **Handholes in end** Size of manhole or handhole: **4 1/2" x 5 1/2"**

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Percentage strength of long joint:—Plate: **---** Rivet: **---** Diameter of tube holes in drum: **4-1/32"** Pitch of tube holes: **7"**
 Percentage strength of drum shell in way of tubes: **42.5%** Water Drum Heads or Ends:—Range of Tensile strength: **60,000 to 70,000 lbs.** Thickness of plates: **9/16" min.** Radius or how stayed: **Handholes in end** Size of manhole or handhole: **4 1/2" x 5 1/2"**

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Percentage strength of long joint:—Plate: **---** Rivet: **---** Diameter of tube holes in drum: **4-1/32"** Pitch of tube holes: **7"**
 Percentage strength of drum shell in way of tubes: **46%** Drum Heads or Ends:—Range of tensile strength: **---** Thickness of plates: **---** Radius or how stayed: **---** Size of manhole or handhole: **4 1/2" x 5 1/2"** Number, diameter, and thickness of tubes: **22 off 2" OD 10 BWG .134 wall.**

Tested by Hydraulic Pressure to: **425 lbs.** Date of Test: **25-11-43 & 26-11-43** Is a safety valve fitted to each section of the superheater which can be shut off from the boiler: **Yes** No. and description of Safety Valves: **One** Area of each set of valves: **1.76 sq. inches** Pressure to which they are adjusted: **230 lbs.** Is easing gear fitted: **No**

Spare Gear. Has the spare gear required by the rules been supplied: **Yes**
 Note: Headers, Superheater headers and mud drums manufactured by Combustion Engineering Co. Inc. at Chattanooga, Tennessee, under Lloyd's inspection and certificate. (Mobile Surveyors)
 The foregoing is a correct description.
VANCOUVER IRON WORKS LTD. Manufacturer.

Dates of Survey while building: **1943 Nov. 16, 19, 20, 21, 22, 25, 26, 27.** Is the approved plan of boiler forwarded herewith: **No.** Plans in U.K.: **---**
1943 Dec. 23, 24, 1944 Jan. 19, 20, 21, 24, 25, 26, 27, 29, Feb. 3, 4, 7, 8, 9, 11, 14, 16, 17, 19. Total No. of visits: **28**

Is this boiler a duplicate of a previous case: **Yes** If so, state vessel's name and report No.: **"FORT COLUMBIA" (Ver. Report No. 5942)**
 GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **These boilers have been built and fitted on board under Special Survey in accordance with the approved plans, New York letters and the Rules. The workmanship is good and the materials tested as per Rule. Satisfactorily tested under hydraulic pressure as above, examined under working conditions, safety valves adjusted to the W.P. and a satisfactory accumulation test carried out, 21st Feb. 1944.**

Survey Fee: **\$ 150.00** When applied for: **21st Feb. 1944**
 Travelling Expenses (if any): **\$ 15.00** When received: **19**

Committee's Minute Assigned: **THURS 27 APR 1944**
See fl. machy rpt.
 Engineer Surveyor to Lloyd's Register of Shipping.
W.B. Baillie

