

# REPORT ON WATER TUBE BOILERS.

Received at London Office.

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Date of writing Report 17th March 44 When handed in at Local Office 17th March 44 Port of Vancouver, B. C.  
 No. in Survey held at Vancouver, B. C. Date, First Survey 8th Dec., 1943 Last Survey 12th March, 1944  
 Reg. Bk. on the Steel Single Screw Steamer "WILLOWDALE PARK" (Number of Visits 17) Tons {Gross 7243.01  
 Net 4163.11  
 Built at Vancouver, B. C. By whom built West Coast Shipbuilders, Ltd. When built 1944  
 Engines made at Montreal By whom made Dominion Engineering Works, 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. (Mgrs. - Park Steamship Co. Ltd.) Port belonging to Montreal, P.Q.

WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.—Manufacturers of Steel Steel Co. of Canada, Page-Hersey Tubes, Combustion Eng. Co., Chattanooga.

Date of Approval of plan 17-7-43 (Spt. 230 lb.) Number and Description or Type  
 of Boilers 2 Sinuous Header Watertube Working Pressure 250 lbs. Tested by Hydraulic Pressure to 425 lbs. Date of Test 30-12-43 & 31-12-43.  
 No. of Certificate Nos. 639 & 640. 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

Each boiler One Twin 4" spring loaded Area of each set of valves per boiler {per rule 22.9 sq. in. in Spt with Spt 450 lb Pressure to which they as fitted 25.14 " " + 1.76 Spt valve.  
 Are they adjusted 250 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 23" Height of boiler 16'-5-5/8"

Width and Length 14'-7 3/4" 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 One Inside Diameter 5 1/2" sq. Thickness of plates 3/4" Range of tensile strength 60,000-70,000 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 Yes 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 (.203" Number 602-2". 44-4" Steam Dome or Collector:—Description of longitudinal joint -- Range of tensile strength -- 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 --

ROWN OR END PLATES:—Range of tensile strength -- Thickness -- Radius or how stayed --  
 SUPERHEATER. Drums or Headers:—Number in each boiler Two Inside Diameter 6" square  
 Thickness 5/8" Material Steel Range of tensile strength 60,000 to 70,000 lbs. Are drum shell plates welded or flanged Forged 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 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 2-1/64" Pitch of tube holes 3-3/4" Percentage strength of drum shell in way of tubes 46% Drum Heads or Ends:—Thickness -- Range of tensile strength -- 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 10BWG .134 wall. Tested by Hydraulic Pressure to 425 lbs. Date of Test 30-12-43 & 31-12-43 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 Mobile Surveyors inspection and certificate.  
 The foregoing is a correct description,  
VANCOUVER IRON WORKS LTD. Manufacturer.

Dates of Survey } During progress of work in shops -- { 1943. Dec. 13, 18, 22, 23, 24, 29, 30, 31. Is the approved plan of boiler forwarded herewith No.  
 while } During erection on board vessel - - - { 1944. Feb. 8, 22, 28, 29. March 1, 3, 10, 11, 12. Total No. of visits 17 Plans in U.K.

Is this boiler a duplicate of a previous case Yes If so, state vessel's name and report No. "FORT COLUMBIA" (Vcr. 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.  
 Survey Fee \$150.00 When applied for 15th Mar., 1944  
 Travelling Expenses (if any) \$15.00 When received 19

Committee's Minute assigned See file made 11.  
 TUES. 13 JUN 1944  
 Engineer Surveyor to Lloyd's Register of Shipping  
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