

# REPORT ON WATER TUBE BOILERS.

REC'D NEW YORK AUG 22 1927

No. 27763

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Writing Report 7 Oct 1927 When handed in at Local Office 7 Feb 1927 Port of New York & Cleveland  
 in Survey held at Bayonne N.J. Date, First Survey 17 January 1927 Last Survey July 16 1927  
 on the S/S "CARL D. BRADLEY" Number of Visits 19 Gross Tons 8805.51  
 Net Tons 6420.52  
 Built at Lorain, Ohio By whom built Aves. J. D. Boy When built 1927-7  
 Plans made at Lynn, Mass. By whom made General Elect. Coy. When made 1927  
 Boilers made at Bayonne N.J. By whom made Babcock & Wilcox Co When made 1927-1  
 Rated Horse Power 985 Owners Bradley Trans. Co. Port belonging to Duluth

**WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.**—Manufacturers of Steel Worth  
 Number for Record 5 Date of Approval of plan Oct. 21 - 1926 Number and Description or Type  
 of Boilers Two Water Tube Boilers Working Pressure 325 Tested by Hydraulic Pressure to 650 Date of Test 1-17-18-27  
 Certificate 503-504 Can each boiler be worked separately yes Total Heating Surface of Boilers 11260  
 Forced draught fitted yes Area of fire grate (coal) in each Boiler 108 sq ft Total grate area of boilers in vessel including  
 and Auxiliary 216 sq ft No. and type of burners (oil) in each boiler ✓ No. and description of safety valves on  
 boiler 2-3 1/4" Consolidated Area of each valve ✓ Pressure to which they are adjusted 325#  
 Key fitted with easing gear yes In case of donkey boilers state whether steam from main boilers can enter the donkey boiler ✓  
 Least distance between boilers or uptakes and bunkers or woodwork ✓ Height of Boiler ✓ Width and Length 25 3/32"  
 in Drums:—Number in each boiler One Inside diameter 42" Material of plates Steel Thickness 25/32"  
 Range of Tensile Strength 63000-71500 lb. Are drum shell plates welded or flanged DRDBS Description of riveting:—  
 Seams DR long. seams DRDBS Diameter of rivet holes in long. seams 1 1/32" Pitch of Rivets 4"  
 of plate or width of butt straps 21" Thickness of straps 3/4" Percentage strength of long. joint:—Plate 74% Rivet 82.5  
 Diameter of tube holes in drum 4 1/32" Pitch of tube holes 7" Percentage strength of shell in way of tubes 42%  
 Drum has a flat side state method of staying ✓ Depth and thickness of girders at centre  
 (fitted) ✓ Distance apart ✓ Number and pitch of stays in each ✓ Working pressure  
 Rules 415 Steam Drum Heads or Ends:—Material Steel Thickness 1 3/16" Radius or how stayed 42"  
 of Manhole or Handhole 15" x 11" MUD Drums:—Number in each boiler One Inside Diameter 7 1/4"  
 Material of plates Steel Thickness 5/8" Range of tensile strength 63000-71500 lb. Are drum shell plates welded  
 flanged ✓ Description of riveting:—Cir. seams ✓ long. seams ✓ Diameter of Rivet Holes in  
 long. seams ✓ Pitch of rivets ✓ Lap of plates or width of butt straps ✓ 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 ✓ MUD Drum Heads or Ends:—Material Steel Thickness 7/8"  
 Radius or how stayed ✓ Size of manhole or handhole 6" x 4 1/4" Headers or Sections:—Number 19  
 Material Steel Thickness 5/8" Tested by Hydraulic Pressure to 650 Material of Stays ✓  
 at smallest part ✓ Area supported by each stay ✓ Working Pressure by Rules ✓ Tubes:—Diameter 4" O.D.  
 Thickness 6 BHC Number 726 Steam Dome or Collector:—Description of Joint to Shell ✓  
 Percentage strength of Joint ✓ Diameter ✓ Thickness of shell plates ✓ Material ✓  
 Description of longitudinal joint ✓ Diameter of Rivet Holes ✓ Pitch of Rivets ✓ Working Pressure of shell  
 Rules ✓ Crown or End Plates:—Material ✓ Thickness ✓ How stayed ✓

**SUPERHEATER.** Type B.W. Date of Approval of Plan Nov 19 - 1926 Tested by Hydraulic Pressure to 650 lb.  
 Date of Test 1/28/27, 2/5/27 Is a safety valve fitted to each section of the superheater which can be shut off from the boiler yes  
 Diameter of Safety Valve 2" Pressure to which each is adjusted 325# Is easing gear fitted yes  
 Is a drain cock or valve fitted at lowest point of superheater yes Number, diameter, and thickness of tubes 270-2"-10 BHC  
 Easing Gear. Tubes ✓ Gaskets or joints:—Manhole ✓ Handhole ✓ Handhole plates ✓

The foregoing is a correct description,  
 The Babcock & Wilcox Co. Manufacturers  
 per W. Hubbard Marine Dept.

Dates of Survey: During progress of work in shops 1927 - Jan. 17, 18, 28, Feb. 5  
 During erection on board vessel 1927 - March 31 to June 3

Is the approved plan of boiler forwarded herewith yes  
 Total No. of visits 19

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) The workmanship and material are both of good quality. To complete the survey these boilers to be reerected on board and tested by hydraulic pressure. All mountings to be examined & fitted. Safety valves to be adjusted under steam.

The above described boilers were installed in the vessel in accordance with the Rules & were found to be sound & efficient - under working conditions. The safety valves have been set to blow off at 325 lb. per sq. in.

Survey Fee N.Y. 40 - 150 - When applied for, 27  
 Travelling Expenses (if any) Cleveland 50 - When received, 23 Feb 27  
Exp. 5 -

Alexander Mac Watt. G. Drummond.  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK AUG 24 1927  
 Assigned L. W. T. B. - Steam Pressure 325 lb □

Seal



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