

## REPORT ON WATER TUBE BOILERS.

No. 859

(See Phil. Report No. 7403)

Received at London Office

Date of writing Report 9/10/ 19 37 When handed in at Local Office 19 Port of Cleveland, Ohio.

No. in Survey held at Barberton, Ohio. Date, First Survey June 11th, Last Survey Aug. 17th, 19 37  
 Reg. Bk. on the (Sun Shipbuilding & Dry Dock Company's Hull No. 162) (Number of Visits 9) Gross Tons -  
 Master - Built at - By whom built - When built -  
 Engines made at - By whom made - When made -  
 Boilers made at Barberton, Ohio. By whom made Babcock & Wilcox Co. When made 1937  
 Registered Horse Power - Owners - Port belonging to -

**WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.**—Manufacturers of Steel Bethlehem Steel Corp. ✓  
 (Letter for Record S) Date of Approval of plan February 17th, 1937. Number and Description of Type of Boilers Two, Watertube Working Pressure 475# Tested by Hydraulic Pressure to 950# Date of Test 8/13/37  
 No. of Certificate - Can each boiler be worked separately Yes Total Heating Surface of Boilers 3596 (1 boiler)  
 Is forced draught fitted - Area of fire grate (coal) in each Boiler - Total grate area of boilers in vessel including Main and Auxiliary - No. and type of burners (oil) in each boiler - No. and description of safety valves on each boiler - Area of each valve - Pressure to which they are adjusted -  
 Are they fitted with easing gear - 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 - Height of Boiler 18'0" Width and Length 12'6"  
**Steam Drums:**—Number in each boiler One Inside diameter 42" Material of plates Steel Thickness 7/8" & 1-7/16"  
 Range of Tensile Strength 60,000# to 70,000# Are drum shell plates welded or flanged Fusion Welded Description of riveting:—  
 Cir. seams Fusion Welded, seams Fusion Welded Diameter of rivet holes in long. seams - Pitch of Rivets -  
 Lap of plate or width of butt straps - Thickness of straps - Percentage strength of long. joint:—Plate 90% Rivet -  
 Diameter of tube holes in drum 3-9/32" Pitch of tube holes 7" Percentage strength of shell in way of tubes 53.1  
 If Drum has a flat side state method of staying No flat side Depth and thickness of girders at centre (if fitted) - Distance apart - Number and pitch of stays in each - Working pressure by rules -  
**Steam Drum Heads or Ends:**—Material Steel Thickness 1-5/16" Radius or how stayed 33-3/8"  
 Size of Manhole or Handhole 12" x 16" **Water Drums:**—Number in each boiler - Inside Diameter -  
 Material of plates - Thickness - Range of tensile strength - Are drum shell plates welded or 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 - Pitch of tube holes -  
 Percentage strength of drum shell in way of tubes - **Water Drum Heads or Ends:**—Material - Thickness -  
 Radius or how stayed - Size of manhole or handhole - **Headers or Sections:**—Number 16  
 Material Steel Thickness 19/32" Tested by Hydraulic Pressure to 713# Material of Stays -  
 Area at smallest part - Area supported by each stay - Working Pressure by Rules - **Tubes:**—Diameter 1 1/4" & 2"  
 Thickness .095" & .134" Number 893 - 1 1/4" 64 - 2" **Steam Dome or Collector:**—Description of Joint to Shell None  
 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 by Rules -  
**Crown or End Plates:**—Material - Thickness - How stayed -

**SUPERHEATER.** Type B&W Date of Approval of Plan 2/17/37 Tested by Hydraulic Pressure to 713#  
 Date of Test 8/13-16/37 Is a safety valve fitted to each section of the superheater which can be shut off from the Boiler -  
 Diameter of Safety Valve - Pressure to which each is adjusted - Is easing gear fitted -  
 Is a drain cock or valve fitted at lowest point of superheater - Number, diameter, and thickness of tubes 168 - 1 1/4", .120"  
**Spare Gear.** Tubes - Gaskets or joints:—Manhole - Handhole - Handhole plates -

THE DRUMS ARE NUMBERED 1333-1 and 1333-2

The foregoing is a correct description,  
 The Babcock & Wilcox Co. Manufacturer.  
 Per C. W. Wilson

Dates of Survey } During progress of } June 11, 21; July 13, 20, 30; August 13, 16, 17. Is the approved plan of boiler forwarded herewith Yes  
 while } work in shops - - - }  
 building } During erection on } board vessel - - - }

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) The subject boilers, unassembled, were built under Special Survey in accordance with the Rules and Approved Plans and with the Regulations of the Department of Commerce and Bureau of Marine Inspection & Navigation. The workmanship and materials are good. The boiler drums were tested by hydraulic pressure to 950#, the headers and superheater boxes were tested to 713#, with satisfactory results.

Survey Fee (887.50 of Phil. dev. Phil. 60%) \$350.00 : When applied for, Sept. 17, 1937  
 Travelling Expenses (if any) \$18.00 : When received, Oct. 5, 1937  
 Approval of Babcock & Wilcox Works \$50.00

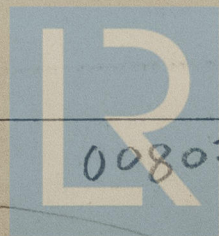
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned See Phil. Rpt. 7403

NEW YORK

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