

REPORT ON WATER TUBE BOILERS.

Received at London Office. -6 JAN 1943

Date of writing Report **Jan. 3rd, 1942.** When handed in at Local Office. **Port of Cleveland, Ohio.**
 No. in Survey held at **Barberton, Ohio.** Date, First Survey **October 9th** Last Survey **December 3rd, 1941.**
 Reg. Bk. **55 "Raphael Semmes"** (Number of Visits **11**)
 on the **Gulf Shipbuilding Corp. Hull No. 4** (Waterman Steamship Corp. Cargo Vessel) Tons {Gross -
 Net -
 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 **1941**
 Nominal Horse Power - Owners - Port belonging to -

WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY—Manufacturers of Steel **Worth Steel Co.**

Date of Approval of plan **August 1941**
 of Boilers **(2) Single Drum Type** Working Pressure **500 lbs.** Tested by Hydraulic Pressure to **750 lbs.** Number and Description or Type **1000 lbs.** Date of Test **11/4/41**

No. of Certificate - Can each boiler be worked separately - Total Heating Surface of Boilers -
 Is forced draught fitted - Area of fire grate (coal) in each Boiler -

No. and type of burners (oil) in each boiler - No. and description of safety valves on each boiler -
 Area of each set of valves per boiler {per rule - as fitted - 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 **17' 8"**
 Width and Length **12' 4 1/2" & 9' 10"** Steam Drums:—Number in each boiler **One** Inside diameter **42-11/16"**

Thickness of plates **25/32" & 1-5/8"** Range of Tensile Strength **70,000 to 82,000 lbs.** Are drum shell plates welded or flanged **Fusion welded** If fusion welded, state name of welding firm **Babcock & Wilcox Co.** 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 **90%** Rivet - Diameter of tube holes in drum **4-1/32"** Pitch of tube holes **7"**

Percentage strength of shell in way of tubes **42.41** Steam Drum Heads or Ends:—Range of tensile strength **65,000 to 77,000 lbs.**
 Thickness of plates **1-5/16"** Radius ~~as shown~~ **33-3/8"** Size of manhole or handhole **12" x 16"** Water Drums:—Number in each boiler - Inside Diameter - Thickness of plates - Range of tensile strength - Are drum shell plates welded or flanged - 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 - Pitch of tube holes -
 Percentage strength of drum shell in way of tubes - Water Drum Heads or Ends:—Range of Tensile strength -
 Thickness of plates - Radius or how stayed - Size of manhole or handhole -

Headers or Sections:—Number **(12)** Material **Steel** Thickness **19/32"** Tested by Hydraulic Pressure to **750 lbs.**
 Tubes:—Diameter **1", 1 1/4" & 2"** Thickness **.095", .095", .134"** Number **(1328) 1" & (70) 2"** Steam Dome or Collector:—Description of joint to Shell - Inside diameter - Thickness of shell plates - 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 -

Crown or End Plates:—Range of tensile strength - Thickness - Radius or how stayed -

SUPERHEATER. ~~Donkey~~ Headers:—Number in each boiler **Upper and Lower** Inside Diameter **5-1/2" Square**
 Thickness **7/8"** Material **Steel** Range of tensile strength **62,000 to 72,000 lbs.** Are drum shell plates welded or flanged - 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 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 - Pitch of tube holes - Percentage strength of drum shell in way of tubes - Drum Heads or Ends:—Thickness - Range of tensile strength - Radius or how stayed - Size of manhole or handhole - Number, diameter, and thickness of tubes **(141) 1 1/4", .120"**

Tested by Hydraulic Pressure to **750 lbs.** Date of Test **Oct. & Nov. 1941.** Is a safety valve fitted to each section of the superheater which can be shut off from the boiler - No. and description of Safety Valves - Area of each set of valves - Pressure to which they are adjusted - Is easing gear fitted -

Spare Gear. Has the spare gear required by the rules been supplied -

The foregoing is a correct description,
Babcock & Wilcox Co. Manufacturer.

Dates of Survey } During progress of } **Oct. 9, 14, 17, 22, 23, 29, 30th;** Is the approved plan of boiler forwarded herewith -
 while } work in shops - } **Nov. 4, 13, 17 and Dec. 3rd, 1941.**
 building } during erection on }
 board vessel - - - } Total No. of visits -

Is this boiler a duplicate of a previous case. - If so, state vessel's name and report No. -

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **These boilers, unassembled, comprising steam drums and headers, were built to this Society's Special Survey Requirements and to Approved Plans, also in conformity with the Rules of the United States Bureau of Navigation & Steamboat Inspection. Workmanship, materials, X-Ray examinations, tension and bend test results of fusion welded joint specimens and hydraulic tests of drums and headers, were found satisfactory.**

Survey Fee **TO BE CREDITED TO CLEVELAND** When applied for, 19
See mobile Rpt 1942
 Travelling Expenses (if any) **\$21.50** When received, 19

L. Drummond
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **NEW YORK DEC 2 1942**
 Assigned *See First Entry Report.*

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