

# REPORT ON WATER TUBE BOILERS.

No. 1083

REC'D NEW YORK JAN 13 1943

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Date of writing Report April 6, 1942 When handed in at Local Office 19 Port of Cleveland, Ohio.  
 No. in Survey held at Barberton, Ohio. Date, First Survey Dec. 9th, 1941 Last Survey Jan. 29th, 1942.  
 Reg. Bk. on the Sun S/B & D/D Co's Hull 232 3/5 "Markay" (Number of Visits 9) Tons {Gross  
Keystone Tankship Corp. {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 1942  
 Nominal Horse Power - Owners MB-1724 1 & 2 Port belonging to -

WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY—Manufacturers of Steel Worth and Carnegie Steel Cos.

Date of Approval of plan June 1941. Number and Description or Type  
 of Boilers 2 - Two, (2) Drum Type Working Pressure 500# Tested by Hydraulic Pressure to 1000# Date of Test Dec. 12, 15, 26, 29th, 1941. & Jan. 15th, 18, 22, 29th, 1942.  
 No. of Certificate - Can each boiler be worked separately - Total Heating Surface of Boilers -  
 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 - Pressure to which they are adjusted - as fitted -  
 Are they fitted with easing gear - In case of donkey boilers state whether steam from main boilers can enter donkey boiler -  
 Smallest distance between boilers or uptakes and bunkers or woodwork - Height of boiler -

Width and Length - Steam Drums:—Number in each boiler One Inside Diameter 24-5/16" Wrapper S.  
23-3/32" Tube S. Range of Tensile Strength 70,000 to 82,000 lbs. Are drum shell plates welded  
 thickness of plates 15/16" Wrapper 3-3/8" Tube Range of Tensile Strength 70,000 to 82,000 lbs. Are drum shell plates welded  
 flanged 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 90.0 Rivet - Diameter of tube holes in drum 1 1/4" 2" & 3 1/4" Pitch of tube holes 1 3/4" 3 1/4" 5"  
 Percentage strength of shell in way of tubes 27.14 Steam Drum Heads or Ends:—Range of tensile strength 65,000 to 77,000 lbs.  
 thickness of plates 1-9/16" Radius 38" Size of manhole or handhole 12" x 16" Water Drums:—Number  
 in each boiler One Inside Diameter 14-5/8" T.S. Thickness of plates 5/8" 2-1/8" Range of tensile strength 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. seam -

Diameter of rivet holes in long. seams - Pitch of rivets - Thickness of straps - Percentage strength of long. joint:—Plate 90.0 Rivet - Diameter of tube holes in drum 1 1/4" 2" 3 1/4" Pitch of tube holes 1 3/4" 3 1/4" 5"  
 Percentage strength of drum shell in way of tubes 27.14 Water Drum Heads or Ends:—Range of Tensile strength 65,000 to 77,000 lbs.  
 thickness of plates 1" Radius 24" Size of manhole or handhole 12" x 16"

Leaders or Sections:—Number - Material - Thickness - Tested by Hydraulic Pressure to -  
 Tubes:—Diameter - Thickness - Number - 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 -

Lower or End Plates:—Range of tensile strength - Thickness - Radius or how stayed -  
 SUPERHEATER. Drums or Headers:—Number in each boiler (1) Upper & (1) 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 -

Tested by Hydraulic Pressure to 750 lbs. Date of Test Dec. 1941 & Jan. 1942. 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. C. Wilcox Manufacturer.

Dates of Survey } During progress of work in shops - - } Dec. 9th, 12, 15, 26, 29th, 1941. Is the approved plan of boiler forwarded herewith No  
 while building } During erection on board vessel - - - } Jan. 15th, 18, 22, 29th, 1942. Total No. of visits -

Is this boiler a duplicate of a previous case Yes If so, state vessel's name and report No. - 1080

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) Steam drums, water drums, side walls and superheater headers and economizers were built to Special Survey requirements and to approved plans, also in conformity with the Rules of the U.S. 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, headers and economizers, were found satisfactory.

Survey Fee TO BE CREDITED TO CLEVELAND When applied for, 19  
 Travelling Expenses (if any) \$286.30 : } When received, 19  
(see Ph. Rpt. No. 8299)

Committee's Minute NEW YORK JAN 13 1943  
 Assigned see attached First Entry Report.

