

# REPORT ON WATER TUBE BOILERS.

No. 9384

30 JAN 1950

Received at London Office

Date of writing Report 6th Dec. 1949 When handed in at Local Office 6th Dec. 1949 Port of PHILADELPHIA, PA.  
 No. in Survey held at Chester, Pa. Date, First Survey 11th August Last Survey 14th Nov. 1949  
 Reg. Bk. on the S.S. "SOVAC ASTRAL" - Sun Hull No. 572 (Number of Visits eight) Gross Tons 17597.94  
 Net Tons -  
 Built at Chester, Pa. By whom built Sun S.B. & D.D. Co. When built 1949  
 Engines made at Wellsville, N. Y. By whom made Worthington Pump & Mach'y Co. When made 1942  
 Boilers made at Bartonton, Ohio By whom made Babcock & Wilcox Co. When made 1949  
 Nominal Horse Power 3096 Owners Tankers Navigation Company Port belonging to Panama

## WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.—Manufacturers of Steel. Worth Steel Company

Date of Approval of plan Dec. 28, 1948 and Feb. 1, 1949 Number and Description or Type of Boilers Two Marine Single Uptake Working Pressure 685 psi Tested by Hydraulic Pressure to 1370 Date of Test Oct. 17, 1949  
 No. of Certificate P-813, 814-S Can each boiler be worked separately Yes Total Heating Surface of Boilers 2040 sq. ft. Superheater  
7390 Each Boiler  
 Is forced draught fitted - Area of fire grate (coal) in each boiler -  
 No. and type of burners (oil) in each boiler 4 per Boiler, Straight Mechanical Iowa Type 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 the donkey boiler - Height of boiler 22'-6"  
 Width and Length 17' - 2" Steam Drums:—Number in each boiler One Inside diameter 46 27/32" average  
 Thickness of plates Wrapper 1 3/16" - Tube 3 3/4" Range of Tensile Strength 70,000 psi Min. Are drum shell plates welded or flanged Welded If fusion welded, state name of welding firm Babcock and 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 1 1/4" Percentage strength of long. joint:—Plate - Rivet - Diameter of tube holes in drum 1 1/4" - 2" - 3 1/4" Pitch of tube holes 1.75"  
 Percentage strength of shell in way of tubes 27.14% Steam Drum Heads or Ends:—Range of tensile strength 70,000 psi min.  
 Thickness of plates 1 13/16" Radius or how stayed Ellipsoidal Size of manhole or handhole 12" x 16" Water Drums:—Number in each boiler One Inside Diameter 29 5/8" Thickness of plates Tube 2 1/2" Range of tensile strength 70,000 min. Are drum shell plates welded or flanged Welded If fusion welded, state name of welding firm Babcock and 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 - Rivet - Diameter of tube holes in drum 1 1/4" - 2" - 3 1/4" Pitch of tube holes 1.75"  
 Percentage strength of drum shell in way of tubes 27.14% Water Drum Heads or Ends:—Range of Tensile strength 70,000 psi min.  
 Thickness of plates Manhead 1 3/16" Blank - Radius or how stayed Ellipsoidal Size of manhole or handhole 12" x 16"  
 Headers or Sections:—Number 2 Rear Material Carbon Moly Thickness .875 Tested by Hydraulic Pressure to 1370 psi  
 Tubes:—Diameter Waterwall 2" - 1 1/4" Thickness 11 BWG: 1422 Number 71 Steam Dome or Collector:—Description of joint to Shell None 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 -  
 Crown or End Plates:—Range of tensile strength - Thickness - Radius or how stayed -  
 SUPERHEATER. Drums or Headers:—Number in each boiler Headers 3 Inside Diameter 5 1/4" square  
 Thickness 1.00" Material carbon steel Range of tensile strength 70,000 psi min. Are drum shell plates welded or flanged Headers are seamless 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 1.275" Pitch of tube holes 1 1/16" Percentage strength of drum shell in way of tubes .310% Drum Heads or Ends:—Thickness - Range of tensile strength 70,000 psi  
 Radius or how stayed - Size of manhole or handhole 3 3/4" x 3 3/8" Number, diameter, and thickness of tubes 148 - 1 1/4" x .135"  
 Tested by Hydraulic Pressure to - Date of Test - 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 -  
 Boilers No. MB 4340 Nos. 1 and 2  
 The foregoing is a correct description,  
 \_\_\_\_\_ Manufacturer.

Dates of Survey } During progress of work in shops - - } Jan. 14, 28, Feb. 3, 16, 22, Mar. 1, 8, 21, 28, April 15, 1949  
 while } During erection on board vessel - - } Aug. 11, Sept. 22-26, 28, Oct. 4, 5, 17, & Nov. 14, 1949  
 building } Total No. of visits 18

Is this boiler a duplicate of a previous case Yes If so, state vessel's name and report No. S.S. "SOVAC PEGASUS" - Sun Hull #570  
Phl. Rpt. 9341

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The above boilers have been satisfactorily installed on board the vessel, tested by hydraulic pressure to 1078 lbs. and found in good order. The safety valves have been adjusted under steam to 685 lbs. on the boilers, and 627 on the superheaters. It is recommended that these boilers receive the record 2 WTB 685 lbs. (SPT).

Survey Fee £ 110.00 : } When applied for, 1st Dec. 1949  
 Travelling Expenses (if any) £ 20.00 : } per F.A.G.  
 Cleveland A/C 290.00 : } When received, 19

*[Signature]*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
 Assigned 2 WTB (Spt.) 685 lbs □

NEW YORK JAN 4 - 1950