

# REPORT ON WATER TUBE BOILERS.

No. 815

Received at London Office MAY 10 1937

Date of writing Report Feb. 11th 1937. When handed in at Local Office 19 Port of Cleveland, Ohio.

No. in Reg. Bk. Surveys held at Cartaret, N.J. & Dansville, N.Y. Date, First Survey Dec. 8th, 1936 Last Survey Jan. 20th, 1937  
 on the (Sun S.B. Co. Hull #159) (Number of Visits 4) Tons Gross  
 Master Built at Chester, Pa. By whom built Sun S.B. Co. When built 1937  
 Engines made at Chester, Pa. By whom made Sun S.B. Co. When made 1937  
 Boilers made at Cartaret, N.J. & Dansville, N.Y. By whom made Foster Wheeler Corp. (No. 83) When made 1937  
 Registered Horse Power 1145 Owners Sun Oil Company Port belonging to

**WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.**—Manufacturers of Steel Lukens Steel Co.  
 (Letter for Record S) Date of Approval of plan November 4th, 1936. Number and Description or Type of Boilers One Water Tube (Exhaust Gas Fired only) Working Pressure 200# Tested by Hydraulic Pressure to 400# Date of Test  
 No. of Certificate  Can each boiler be worked separately  Total Heating Surface of Boilers 1872 sq. ft.  
 Is forced draught fitted ✓ Area of fire grate (coal) in each Boiler ✓ Boiler is Exhaust Gas Fired only. Total grate area of boilers in vessel including Main and Auxiliary Motor Vessel No. and type of burners (oil) in each boiler Fired only. No. and description of safety valves on each boiler One Spring Loaded Area of each valve 1.77 sq. in. Pressure to which they are adjusted 110#  
 Are they fitted with easing gear Yes 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  Width and Length 6-7 1/2  
 Steam Drums:—Number in each boiler One Inside diameter 30" Material of plates Steel Thickness 7/16  
 Range of Tensile Strength 60/70,000# Are drum shell plates welded or flanged Fusion Welded Description of riveting:—  
 Cir. seams Fusion welded. long. seams Fusion welded. Diameter of rivet holes in long. seams ✓ Pitch of Rivets ✓  
 Lap of plate or width of butt straps Fusion welded Thickness of straps ✓ Percentage strength of long. joint:—Plate 90% alloy rivet  
 Diameter of tube holes in drum 2-1/32" Pitch of tube holes 4-7/8" Percentage strength of shell in way of tubes 58.4%  
 If Drum has a flat side state method of staying No flat side Depth and thickness of girders at centre (if fitted) None Distance apart ✓ Number and pitch of stays in each ✓ Working pressure by rules 227# Steam Drum Heads or Ends:—Material Steel Thickness 1/2" & 19/32" Radius or how stayed 30" R  
 Size of Manhole or Handhole 12" x 16" Water Drums:—Number in each boiler None 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 Connecting Headers or Sections:— Thickness One 6" diam. ✓  
 Radius or how stayed ✓ Size of manhole or handhole ✓ Material Steel ✓ Thickness Ex. Hy. pipe ✓ Tested by Hydraulic Pressure to 400# ✓ Material of Stays ✓  
 Area at smallest part ✓ Area supported by each stay ✓ Working Pressure by Rules Tubes:—Diameter 2" ✓  
 Thickness 11 BWG ✓ Number 48 Elements 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 ✓

**UPERHEATER.** Type None Date of Approval of Plan  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 ✓  
 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 ✓  
**Spare Gear.** Tubes ✓ Gaskets or joints:—Manhole ✓ Handhole ✓ Handhole plates ✓

The foregoing is a correct description,  
*Foster Wheeler Corp.* Manufacturer.  
*By R. S. [Signature]*

Dates of Survey During progress of work in shops - - Dec. 8th, 28th, 1936. Jan. 4th, 20th, 1937 Is the approved plan of boiler forwarded herewith   
 while building During erection on board vessel - - - Total No. of visits 3-New York - 1-Cleveland

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) The boiler for this vessel has been built under Special Survey, in accordance with the Rules and approved plans, and the workmanship and materials are good. The steam drum was built at Cartaret, N.J. and shipped to Dansville, N.Y. to be fitted to the heating unit which consists mainly of 48 elements of 2" No. 11 BWG tubes with shrunk on cast iron rings and 64 2" No. 11 BWG tube bends of various lengths. The boiler completely assembled was tested to 400 lbs. hudraulic pressure, with satisfactory results. In my opinion, it is eligible, to receive the notation LWTD 200 lbs. Exhaust Gas Fired Only.

Survey Fee ... \$150.00 When applied for 9th Feb. 1937 at Cleve.  
 Travelling Expenses (if any) \$5.00 NY 5.00 Clv. When received, 10.6 1937  
 Clv. 9/5  
 N.Y. 9/5

*G. Drummond*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute N.Y. YORK APR 28 1937  
 Assigned See attached Rpt. P.H. 7272

