

# REPORT ON WATER TUBE BOILERS.

No. 41897

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No. in Survey held at BARBERTON, OHIO AND QUINCY, MASS Date, First Survey 28 MAR 1941 Last Survey 15 AUG 1941  
Reg. Bk. on the STEEL SINGLE SCREW OIL TANKER "SINCLAIR OPALINE" (Number of visits 14)

Tons { Gross 7874  
Net 4605

Built at QUINCY, MASS. By whom built BETHLEHEM STEEL COMPANY When built 1941

Engines made at TRENTON, N.J. By whom made DE LAVAL STEAM TURBINE CO. When made 1941

Boilers made at BARBERTON, OHIO By whom made BABCOCK AND WILCOX CO. When made 1941

Nominal Horse Power 905 Owners SINCLAIR REFINING CO. Port belonging to WILMINGTON, DEL.

WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.—Manufacturers of Steel BETHLEHEM STEEL CO.

Date of Approval of plan AUGUST 1940 Number and Description or Type of Boilers (2) WATER TUBE SINGLE DRUM TYPE Working Pressure 500 LBS. Tested by Hydraulic Pressure to 750 LBS. Date of Test MAY 12-14

No. of Certificate NONE ISSUED Can each boiler be worked separately YES Total Heating Surface of Boilers 6826 Sq Ft

Is forced draught fitted YES Area of fire grate (coal) in each Boiler —

No. and type of burners (oil) in each boiler THREE (3) 1000 "HEX-RESS" TYPE No. and description of safety valves on each boiler TWO (2) CONSOLIDATED SPRING LOADED Area of each set of valve 9.82 SQ. INS. Pressure to which they are adjusted 500 LBS.

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 NO WOODWORK Height of boiler 18'-3 1/4" Width and Length 10'-9 3/4" x 48"

Steam Drums:—Number in each boiler ONE Inside diameter 42 1/16" Thickness of plates 25/32" AND 1 5/8"

Range of Tensile Strength 70,000 TO 82,000 LBS Are drum shell plates welded or flanged FUSION WELDED Description of riveting:—

Cir. seams — long. seams — 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 4 1/32" Pitch of tube holes 7" Percentage strength of shell in way of tubes 42.41

Working pressure by rules 512 LBS. Steam Drum Heads or Ends:—Range of tensile strength 65-77,000 LBS. Thickness of plates 1 5/16"

Radius or how stayed 33 3/8" Size of manhole or handhole 12" x 16" Working pressure by rules — Water Drums:—Number in each boiler — Inside Diameter — Thickness of plates — Range of tensile strength — Are drum shell plates welded or flanged — Description of riveting:—Cir. seams — long. seam — 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 — Working pressure by rules — Water Drum Heads or Ends:—Range of Tensile strength — Thickness of plates — Radius or how stayed —

Size of manhole or handhole — Working pressure by rules — Headers or Sections:—Number THIRTEEN (13)

Material STEEL Thickness 19/32" Tested by Hydraulic Pressure to 750 BARBERTON QUINCY Tubes:—Diameter 1 1/4" AND 2"

Thickness .095-.134 Number 704-1 1/4"-52.2" Steam Dome or Collector:—Description of Joint to Shell —

Inside diameter — Thickness of shell plates — Range of tensile strength —

Description of longitudinal joint — Diameter of rivet holes — Pitch of rivets — Lap of plate or width of butt straps — Thickness of straps — Percentage strength of long. joint:—Plate — Rivet —

Working Pressure of shell by rules — Crown or End Plates:—Range of tensile strength —

Thickness — Radius or how stayed — Working pressure by rules —

SUPERHEATER. Drums or Headers:—Number in each boiler UPPER AND LOWER Inside Diameter 5 1/2" SQUARE

Thickness 7/8" Material STEEL Range of tensile strength 62,000-72,000 LBS. 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 1 1/4" Pitch of tube holes 1 3/4"

Percentage strength of drum shell in way of tubes — Working pressure by rules — Drum Heads or Ends:—

Thickness — Range of tensile strength — Radius or how stayed — Size of manhole or handhole —

Working pressure by rules — Number, diameter, and thickness of tubes — Tested by Hydraulic Pressure to 750 LBS.

Date of Test MAY 12-14, 1941 Is a safety valve fitted to each section of the superheater which can be shut off from the boiler YES

No. and description of Safety Valves ONE CONSOLIDATED TYPE NO 5553C Area of each set of valves 1.77 SQ. INS.

Pressure to which they are adjusted 463 LBS. Is easing gear fitted YES

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

The foregoing is a correct description,

Bethlehem Steel Company, Shipbuilding Division, Fore River Yard.

L. V. Currier. Manufacturer.  
General Manager

Dates of Survey } During progress of work in shops - - } SEE CLEVELAND REPORT NO 1027 Is the approved plan of boiler forwarded herewith

while building } During erection on board vessel - - - } MAR 28 APR 17-29 MAY 2-8-10-12-14 JULY 22-21 Total No. of visits 14

AUG 9-12-13-15

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) THESE BOILERS HAVE BEEN ERECTED, TESTED AND FITTED ON BOARD THIS VESSEL IN ACCORDANCE WITH THE RULES, AND APPROVED PLANS. THE MATERIAL AND WORKMANSHIP ARE GOOD AND, IN MY OPINION, THIS VESSEL IS ELIGIBLE TO HAVE THE NOTATION 2 WTB(SPT) 500 LB. FOR FURTHER PARTICULARS SEE CLEVELAND REPORT NO 1027 ATTACHED HERETO

Survey Fee Charged Cleveland : : } When applied for, — 10

Travelling Expenses (if any) £ : : } When received, — 10

Committee's Minute NEW YORK DEC 23 1941

Assigned 2 W. T. B. (SPT) 500 lbs.

P. W. Wilson  
Engineer Surveyor to Lloyd's Register of Shipping.

