

REPORT ON WATER TUBE BOILERS.

No. **41921**

21 MAY 1942

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Date of writing Report **DEC 12 1941** When handed in at Local Office **19** Port of **NEW YORK**

No. in Survey held at **BARKERTON, OHIO AND QUINCY, MASS** Date, First Survey **JULY 13** Last Survey **SEPT 19 1941**
Reg. Bk. on the **STEEL SINGLE SCREEN TANKER "SINCLAIR RUBILENE"** (Number of Visits **16**) Tons { Gross **7822**
Net **4596**

Built at **QUINCY, MASS** By whom built **BETHLEHEM STEEL CO** When built **1941**
Engines made at **TRENTON, N.J.** By whom made **DE LAVAL TURBINE CO** When made **1941**
Boilers made at **BARKERTON, OHIO** By whom made **BARKER 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 **120** Date of Test **Aug 6 1941**

No. of Certificate **Can each boiler be worked separately** **YES** Total Heating Surface of Boilers **6876**

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

No. and type of burners (oil) in each boiler **2 SPRING LOADED SP. HIGH LIFT** Area of each set of valve **9.82 SQ. INS.** Pressure to which they are adjusted **500 LBS/50 IN.**

Are they fitted with easing gear **YES** In case of donkey boilers state whether steam from main boilers can enter the donkey boiler **NO WOODWORK**

Smallest distance between boilers or uptakes and bunkers or woodwork **NO WOODWORK** Height of boiler **18' 3 1/4"** Width and Length **10' 9" x 14' 8"**

Steam Drums:—Number in each boiler **ONE** Ins. diameter **42 1/16"** Thickness of plates **25/32" AND 1/2"**

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

long. 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 **70%** 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 **—** Steam Drum Heads or Ends:—Range of tensile strength **—** Thickness of plates **1 1/16"**

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 **(13)**

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

Thickness **.095" AND .134"** Number **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 **(2) UPPER AND LOWER** Inside Diameter **5 1/2" 5 1/2"**

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 1/4"**

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 **195 1 1/2" 190** Tested by Hydraulic Pressure to **700 LBS**

Date of Test **Aug 6 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 **—** Area of each set of valves **1.7750 IN²**

Pressure to which they are adjusted **165 LBS** Is easing gear fitted **YES**

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

Bethlehem Steel Company
Shipbuilding Division
Fore River Yard
Quincy, Mass.

The foregoing is a correct description,

L. H. Anderson General Manager, Manufacturer.

Dates of Survey while building

During progress of work in shops - - **SEP CLEVELAND REPORT NO 1028**
During erection on board vessel - - **JULY 12, 19, 26, 30, 31, 1941**
SEPT 19, 20, 21, 22, 1941

Is the approved plan of boiler forwarded herewith **NO**

Total No. of visits **16**

Is this boiler a duplicate of a previous case **YES** If so, state vessel's name and report No. **"SINCLAIR OPAHINE"**

GENERAL REMARKS

(State quality of workmanship, opinions as to class, &c.) **THESE BOILERS HAVE BEEN EXAMINED, TESTED AND FITTED ON BOARD THIS VESSEL IN ACCORDANCE WITH THE RULES AND APPROVED PLANS. THE MATERIALS AND WORKMANSHIP ARE GOOD AND, IN MY OPINION, THIS VESSEL IS SUITABLE TO CARRY THE NATIONAL SWIFT (LPT) BOOKS.**

Survey Fee ... **Charged Cleveland** When applied for, **10**

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

Committee's Minute **NEW YORK DEC 30 1941**

signed **2 W.T.D. (Cpt) 500 lbs.**

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



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