

# REPORT ON WATER TUBE BOILERS.

Phl. Rpt. No. 6889

No. 35674

Received at London Office

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Date of writing Report 26 Oct 1934 When handed in at Local Office 19 Port of New York

No. in Survey held at New York Date, First Survey 21 August Last Survey 4 October 1934

Reg. Bk. on the HULL N° 414. now named SOCONY VACUUM. (Number of Visits 5) Tons { Gross 9871.70 Net 8894

Master ✓ Built at Camden N.J. By whom built New York S. B. Co. When built 1934

Engines made at Trenton, N.J. By whom made De Laval Steam Turbine Co. When made 1934

Boilers made at Cleveland, O + Cartaret N.J. By whom made Foster Wheeler Corporation When made 1934

SHAFT Registered Horse Power 4000 Owners SOCONY VACUUM TRANSPORTATION Co. Port belonging to New York.

## WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.—Manufacturers of Steel OTIS STEEL Co., LUKENS STEEL Co

(Letter for Record         ) Date of Approval of plan 12 APRIL 1934 Number and Description or Type of Boilers 3 WATERTUBE (2 SUPERHEATER, 1 CARGO) Working Pressure 450 LBS Tested by Hydraulic Pressure to 725 LBS Date of Test         

No. of Certificate 672 674 Can each boiler be worked separately YES Total Heating Surface of Boilers 11164 sq ft

Is forced draught fitted YES Area of fire grate (coal) in each Boiler          Total grate area of boilers in vessel including Main and Auxiliary          No. and type of burners (oil) in each boiler 3 IN SUPERHEATER BLR 7000 CARGO BLR 5 TYPE No. and description of safety valves on each boiler 2 - SPRING LOADED Area of each valve 7.07 sq" Pressure to which they are adjusted Cargo 105 Main 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 17-5 1/2 SUPERHEATER 17-3 1/4 CARGO Width and Length WIDTH 16"-4" SUPERHEATER 13"-2" CARGO LENGTH 14"-4" SUPERHEATER 14"-4" CARGO

Steam Drums:—Number in each boiler ONE Inside diameter 48" Material of plates STEEL Thickness 1 3/16"

Range of Tensile Strength 64000 LBS MINIMUM Are drum shell plates welded or flanged NO Description of riveting:—  
 Cir. seams DOUBLE long. seams D.R. D.B.S. Diameter of rivet holes in long. seams 1 1/32" Pitch of Rivets 4 13/16"

Lap of plate or width of butt straps 14 6/4" Thickness of straps 1 7/8 INSIDE 1 7/8 OUTSIDE Percentage strength of long. joint:—Plate 69 Rivet 71

Diameter of tube holes in drum 1 3/32 AND 2 1/2" Pitch of tube holes 3 1/2 x 6 1/8" Percentage strength of shell in way of tubes 49.4

If Drum has a flat side state method of staying          Depth and thickness of girders at centre (if fitted)          Distance apart          Number and pitch of stays in each          Working pressure by rules         

Steam Drum Heads or Ends:—Material STEEL Thickness 1 3/32" Radius or how stayed 48"

Size of Manhole or Handhole 12" x 16" Water Drums:—Number in each boiler TWO Inside Diameter 30"

Material of plates STEEL Thickness 1 3/32" Range of tensile strength 64000 LBS MIN Are drum shell plates welded or flanged NO Description of riveting:—Cir. seams D.R. long. seams D.R. D.B.S. Diameter of Rivet Holes in long. seams 1 3/32" Pitch of rivets 4 5/16" Lap of plates or width of butt straps 13" Thickness of straps 3/4 OUTSIDE 13/16 INSIDE

Percentage strength of long. joint:—Plate 69 Rivet 78 Diameter of tube holes in drum 1 3/32" x 2 1/2" Pitch of tube holes 3 1/2 x 6 1/8"

Percentage strength of drum shell in way of tubes 49.4 Water Drum Heads or Ends:—Material STEEL Thickness 1 3/32" x 1 3/32"

Radius or how stayed 30" Size of manhole or handhole 12" x 16" Headers or Sections:—Number          Material          Thickness          Tested by Hydraulic Pressure to          Material of Stays         

Area at smallest part          Area supported by each stay          Working Pressure by Rules          Tubes:—Diameter 1 1/2 x 2"

Thickness .134" + .148" Number 2 BOILERS 298-1 1/2" 64-2" Steam Dome or Collector:—Description of Joint to Shell         

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 CONVECTION Date of Approval of Plan 12 APRIL 1934 Tested by Hydraulic Pressure to 725 LBS

Date of Test          Is a safety valve fitted to each section of the superheater which can be shut off from the Boiler CANNOT BE SHUT OFF

Diameter of Safety Valve 2" Pressure to which each is adjusted 1405 Is easing gear fitted YES

Is a drain cock or valve fitted at lowest point of superheater YES Number, diameter, and thickness of tubes TUBES 1 1/2 DIA .134" THICK

Spare Gear. Tubes 142 Gaskets or joints:—Manhole 3 Handhole 72 Handhole plates 174

The foregoing is a correct description,

*L.M. Keshan* Manufacturer.

Dates of Survey } During progress of work in shops - - } AT CARTARET N.J. 1934 AUG 21, 28, SEPT 6, 14, OCT 4 Is the approved plan of boiler forwarded herewith         

while building } During erection on board vessel - - - }          Total No. of visits 5

## GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

PLEASE SEE FOLLOWER SHEET ATTACHED

NYk 160.00  
 Cleveland 80.00 net  
 Survey Fee Philadelphia £ 30.00 : } When applied for, 28 Nov. 1934  
 Travelling Expenses (if any) £ 20.50 : } When received, 10 Jan. 1935

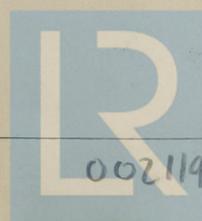
John S. Heck.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

NEW YORK APR 3 - 1935

Assigned See Phl. Rpt. 6889



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NEW YORK S.B. CO. HULL NO. 4114

SOCONY-VACUUM TANKER

This Boiler Installation consists of 3 Water Tube Boilers, two each of 3407 sq. ft. Heating Surface are fitted with Superheaters and are designated as Superheater Boilers. The third boiler of 4350 sq. ft. heating surface is not fitted with Superheater and is designated as Cargo Boiler.

The drums have been <sup>made and</sup> tested at Cleveland, Ohio, as per Cleveland Rpt. 705 herewith. The Boilers have been erected at New York under Special Survey in accordance with the Rules and approved plans and the workmanship and material are good.

The superheaters cannot be shut off from the boilers but it is intended to fit a 2" safety valve on the superheated steam line to act as a warning signal.

The safety valves are intended to be set as follows:-

	<u>Superheater Boilers</u>	<u>Cargo Boiler</u>
Main Safety valves	430 lbs.	405 lbs.
Superheater Safety Valves	405 lbs.	

The boilers have been shipped to Philadelphia for installation on board, final hydraulic testing and adjusting of safety valves under steam, and when this has been done in accordance with the Rules and to the satisfaction of the Surveyor, the boilers will be eligible, in my opinion, to receive the record 450 lbs. in the Register Book.

*John S. Heck*

Surveyor to Lloyd's Register.

