

# REPORT ON WATER TUBE BOILERS.

No. 7403

Received at London Office JAN 20 1938

Date of writing Report 9<sup>th</sup> Dec 1937 When handed in at Local Office 10<sup>th</sup> Dec 1937 Port of Philadelphia

No. in Survey held at Barberton O. & Chester Pa Date, First Survey 11 June Last Survey 27<sup>th</sup> Nov 1937

Reg. Bk. 5/8 ESSO. BAYTOWN. (Number of Visits 10) Tons { Gross 8021  
Net 4794

Master J. M. Lester Pa Built at Chester Pa By whom built Sim SB, DD Co When built 1937

Engines made at Lester Pa By whom made Kestinghouse Elec & Mfg Co When made "

Boilers made at Barberton O. By whom made Bakerock & Milcox Co When made "

Registered Horse Power \_\_\_\_\_ Owners Standard Oil Co of New Jersey Port belonging to Wilmington Del

**WATER TUBE BOILERS—MAIN, AUXILIARY, OR DONKEY.**—Manufacturers of Steel Bethlehem Steel Corp.

(Letter for Record 5) Date of Approval of plan 17 Feb 1937 Number and Description of Type 2 Watertube 8-13-37-8-6-37

of Boilers 2 Working Pressure 475 lbs Tested by Hydraulic Pressure to 713 Date of Test 3-11-37

No. of Certificate 717 Can each boiler be worked separately Yes Total Heating Surface of Boilers 7192 (2 Boilers)

Is forced draught fitted Yes Area of fire grate (coal) in each Boiler \_\_\_\_\_ Total grate area of boilers in vessel including \_\_\_\_\_

Main and Auxiliary 2 Spring loaded No. and type of burners (oil) in each boiler 3. Fuel No. and description of safety valves on each boiler \_\_\_\_\_

Area of each valve 4.903 Pressure to which they are adjusted 475 lb

Are they fitted with easing gear Yes In case of donkey boilers state whether steam from main boilers can enter the donkey boiler 11.7"

Smallest distance between boilers or uptakes and bunkers or woodwork \_\_\_\_\_ Height of Boiler 18'-0" Width and Length 12'-7 1/2"

Steam Drums:—Number in each boiler 1 Inside diameter 42" Material of plates Steel Thickness 7/8 & 1 1/16"

Range of Tensile Strength 60 to 70,000 lb 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 \_\_\_\_\_ Thickness of straps \_\_\_\_\_ Percentage strength of long. joint:—Plate 90% allowed Rivet \_\_\_\_\_

Diameter of tube holes in drum 3 9/32" Pitch of tube holes 7" Percentage strength of shell in way of tubes 53.1

If Drum has a flat side state method of staying No flat side 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 7/16" Radius or how stayed 33 3/8"

Size of Manhole or Handhole 12" x 16" Water Drums:—Number in each boiler \_\_\_\_\_ 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 \_\_\_\_\_ Thickness \_\_\_\_\_

Radius or how stayed \_\_\_\_\_ Size of manhole or handhole \_\_\_\_\_ Headers or Sections:—Number 16

Material Steel Thickness 1 9/32" Tested by Hydraulic Pressure to 713 lb Material of Stays \_\_\_\_\_

Area at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working Pressure by Rules \_\_\_\_\_ Tubes:—Diameter 1 1/4" & 2"

Thickness .095 & .134" Number 893 - 1 1/4" 64 - 2" 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 \_\_\_\_\_

**SUPERHEATER.** Type B & W Date of Approval of Plan 17 Feb 1937 Tested by Hydraulic Pressure to 713 lb

Date of Test Aug 13-16-1937 Is a safety valve fitted to each section of the superheater which can be shut off from the Boiler Yes

Diameter of Safety Valve 1 1/2" Pressure to which each is adjusted 448 lb Is easing gear fitted Yes

Is a drain cock or valve fitted at lowest point of superheater Yes Number, diameter, and thickness of tubes 168 - 1 1/4" .120"

Spare Gear. Tubes 41 - 1 1/4" Gaskets or joints:—Manhole 12 Handhole 50 Handhole plates 7

The foregoing is a correct description, \_\_\_\_\_  
Manufacturer.

Dates of Survey } During progress of work in shops -- } June 11-21 July 13-20 30 Aug 13-16-17 Is the approved plan of boiler forwarded herewith Yes

while building } During erection on board vessel -- } Nov. 3 Nov 27 Total No. of visits 10

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) The above boilers have been constructed under special survey, and in accordance with the approved plans, the workmanship & materials are good. The boilers have been satisfactorily installed on board the vessel, and tested by hydraulic pressure to 713 lb & found satisfactory. Safety valves have been adjusted under steam on both boilers to 475 lb. In my opinion this installation is eligible to receive the record of W.T.B. 11.37.

Survey Fee ... £(see Hull Report) When applied for, 19

Travelling Expenses (if any) £ : : When received, 19

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

Committee's Minute NEW YORK JAN 5 - 1938

Assigned 2 WTB (Spl) 475 lb

