

# REPORT ON BOILERS.

No. 3238

SEP 14 1937

Received at London Office

Date of writing Report 21<sup>st</sup> Aug. 1937 When handed in at Local Office 21<sup>st</sup> Aug. 1937 Port of GALVESTON  
In Shop - Downingtown, Pa. - April 2<sup>nd</sup> April 8<sup>th</sup> 37.  
 No. in Survey held at Erection on Beaumont, Local Date, First Survey June 9<sup>th</sup> Last Survey June 25<sup>th</sup> 1937  
 Egg. Book Suppl. "M/V. MERCURY" (Number of Visits 5.) Tons { Gross 1518.04  
39158 on the Board. Net 1182.00

Master ✓ Built at BEAUMONT TEXAS By whom built Pennsylvania Shipyard Inc. Yard No. 116 When built 1937-6.  
 Engines made at Cleveland, Ohio By whom made Linton Engine Corp. Engine No. 5314 When made 1937.  
 Boilers made at Downingtown, Pa. By whom made Downingtown Iron Works Boiler No. ✓ When made 1937.  
 Nominal Horse Power 230. Owners Cleveland Tanker Inc. Port belonging to Wilmington, Del.

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Lukens Steel Co, Coatsville (Letter for Record ✓)

Total Heating Surface of Boilers 3275 sq Is forced draught fitted no Fuel or Oil fired Exhaust Gas

No. and Description of Boilers 1 vertical, Tubular. Working Pressure 125 lbs.

Tested by hydraulic pressure to 238 lbs Date of test 8<sup>th</sup> Apr 37 No. of Certificate 699 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler one set R.S.M.E. Standard Spring

Area of each set of valves per boiler per Rule - High Lift Pressure to which they are adjusted 125 lbs Are they fitted with easing gear ✓

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no

Smallest distance between boilers or uptakes and bunkers or woodwork no woodwork Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating Open Floor Is the bottom of the boiler insulated no

Largest internal dia. of boilers 92" Length 4'-8 1/4" Shell plates: Material Steel Tensile strength 60 to 70,000 lbs

Thickness 1/2" Are the shell plates welded or flanged no Description of riveting: circ. seams Single riveting

long. seams Double butt straps Diameter of rivet holes in 1" Pitch of rivets 3.375 x 6.75"

Percentage of strength of circ. end seams {plate 62.6 rivets 58.0 Percentage of strength of circ. intermediate seam {plate ✓ rivets ✓

Percentage of strength of longitudinal joint {plate 86.0 rivets 84.0 combined 89.6 Working pressure of shell by Rules 128.0 lbs

Thickness of butt straps {outer 13/32" inner 1/2" No. and Description of Furnaces in each Boiler ✓

Material ✓ Tensile strength ✓ Smallest outside diameter ✓

Length of plain part {top ✓ bottom ✓ Thickness of plates {crown ✓ bottom ✓ Description of longitudinal joint ✓

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules ✓

End plates in steam space: Material ✓ Tensile strength ✓ Thickness ✓ Pitch of stays ✓

How are stays secured ✓ Working pressure by Rules ✓

Tube plates: Material {front Steel back Steel Tensile strength 60 to 70,000 lbs Thickness {TOP 1/16" BOTTOM 1/16"

Mean pitch of stay tubes in nests ✓ Pitch across wide water spaces ✓ Working pressure {front ✓ back ✓

Girders to combustion chamber tops: Material ✓ Tensile strength ✓ Depth and thickness of girder ✓

at centre ✓ Length as per Rule ✓ Distance apart ✓ No. and pitch of stays ✓

in each ✓ Working pressure by Rules ✓ Combustion chamber plates: Material ✓

Tensile strength ✓ Thickness: Sides ✓ Back ✓ Top ✓ Bottom ✓

Pitch of stays to ditto: Sides ✓ Back ✓ Top ✓ Are stays fitted with nuts or riveted over ✓

Working pressure by Rules ✓ Front plate at bottom: Material ✓ Tensile strength ✓

Thickness ✓ Lower back plate: Material ✓ Tensile strength ✓ Thickness ✓

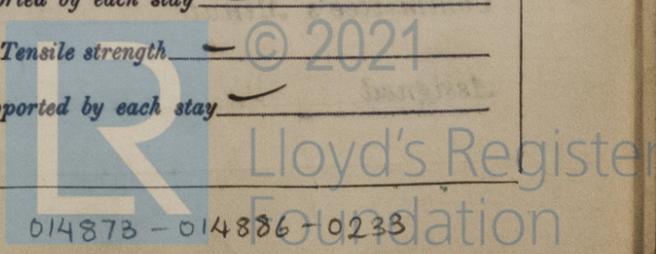
Pitch of stays at wide water space ✓ Are stays fitted with nuts or riveted over ✓

Working Pressure ✓ Main stays: Material ✓ Tensile strength ✓

Diameter {At body of stay, ✓ or ✓ Over threads ✓ No. of threads per inch ✓ Area supported by each stay ✓

Working pressure by Rules ✓ Screw stays: Material ✓ Tensile strength ✓

Diameter {At turned off part, ✓ or ✓ Over threads ✓ No. of threads per inch ✓ Area supported by each stay ✓



Working pressure by Rules  Are the stays drilled at the outer ends  Margin stays: Diameter  At turned off part, or Over threads

No. of threads per inch  Area supported by each stay  Working pressure by Rules

Tubes: Material Steel External diameter  Plain 1 1/4" / Stay 1 1/4" Thickness  13 B.W.G.  5 B.W.G. No. of threads per inch

Pitch of tubes 1 5/16" Working pressure by Rules  **HAND HOLES.** Manhole compensation: Size of opening in shell plate 6" x 4" Section of compensating ring  No. of rivets and diameter of rivet holes

Outer row rivet pitch at ends  Depth of flange if manhole flanged  Steam Dome: Material

Tensile strength  Thickness of shell  Description of longitudinal joint

Diameter of rivet holes  Pitch of rivets  Percentage of strength of joint  Plate Rivets

Internal diameter  Working pressure by Rules  Thickness of crown  No. and diameter of stays

How connected to shell  Inner radius of crown  Working pressure by Rules

Size of doubling plate under dome  Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell

Type of Superheater None Manufacturers of  Tubes  Steel castings

Number of elements  Material of tubes  Internal diameter and thickness of tubes

Material of headers  Tensile strength  Thickness  Can the superheater be shut off and the boiler be worked separately

Is a safety valve fitted to every part of the superheater which can be shut off from the boiler

Area of each safety valve  Are the safety valves fitted with easing gear  Working pressure as per Rules

Pressure to which the safety valves are adjusted  Hydraulic test pressure: tubes  castings  and after assembly in place  Are drain cocks or valves fitted to free the superheater from water where necessary

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with

The foregoing is a correct description,  
Signed Howington Iron Works Manufacturer.

Dates of Survey  During progress of work in shops  April 2<sup>nd</sup> & 8<sup>th</sup> 1937 Are the approved plans of boiler and superheater forwarded herewith  Yes  
(If not state date of approval.)

while building  During erection on board vessel  June 9<sup>th</sup> & 23<sup>rd</sup> & 25<sup>th</sup> 37 Total No. of visits 5

Is this Boiler a duplicate of a previous case  If so, state Vessel's name and Report No.

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) This boiler has been built under Special Survey, and in accordance with the approved plans. The workmanship and materials are good. Hydraulic tests satisfactory. W.H.R.

See Philadelphia Rpt No. 7273, also approved plans, (3) forwarded herewith.

The boiler has been efficiently installed and securely fitted in the vessel, examined under steam, submitted to a satisfactory accumulation test (rise of pressure within 7% of W.P.) and its safety valves adjusted to W.P. of 125 lbs.

In my opinion the vessel is eligible to have record of D.B. 125 lbs. "Exhaust Gas Fired."  
W.R.

With fee shown on Survey Fee W.H.R. Rpt 4 b. : W.R. When applied for, 10  
Travelling Expenses (if any) £ : : When received, 10

Wm. Rennie & Co. W.A. Rindam  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK SEP 1 - 1937

Assigned 1 D.B. (Exhaust Gas Fired) - 125 lbs

