

## REPORT ON BOILERS.

No. 7273  
SEP 11 1937

Received at London Office

Date of writing Report 20<sup>th</sup> April 1937. When handed in at Local Office 21<sup>st</sup> April 1937. Port of Philadelphia

No. in Survey held at Downingtown Pa. Date, First Survey April 2<sup>nd</sup> Last Survey April 8<sup>th</sup> 1937

Reg. Book. (Number of Visits 2.) Tons { Gross Net

on the

Master Built at By whom built Pennsylvania SB Co Yard No. 116 When built

Engines made at By whom made Engine No. When made

Boilers made at Downingtown Pa By whom made Downingtown Iron Works Boiler No. When made 1937.

Nominal Horse Power Owners Port belonging to

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Lukens Steel Co. Coatsville (Letter for Record)

Total Heating Surface of Boilers 3275<sup>sq</sup> Is forced draught fitted Coal or Oil fired exhaust gas

No. and Description of Boilers 1 Vertical tubular Working Pressure 125 lb.

Tested by hydraulic pressure to 238 Date of test April 8<sup>th</sup> 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

Area of each set of valves per boiler { per Rule as fitted Pressure to which they are adjusted Are they fitted with easing gear

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 Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated

Largest internal dia. of boilers 92" Length 7'-8 1/4" Shell plates: Material Steel Tensile strength 60,670,000

Thickness 1/2" Are the shell plates welded or flanged No Description of riveting: circ. seams { end Single welded inter. 2.676"

long. seams Double butt straps Diameter of rivet holes in { circ. seams 1 1/16" Pitch of rivets { 3.375" + 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 87.0 Working pressure of shell by Rules 128 lb.

combined 89.6

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 Thickness of plates { crown Description of longitudinal joint

bottom Thickness of plates { bottom Working pressure of furnace by Rules

Dimensions of stiffening rings on furnace or c.c. bottom

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 Tensile strength 60,670,000 lb. Thickness { Top 1/16" Bottom 1/16"

back Steel

Mean pitch of stay tubes in nests Pitch across wide water spaces Working pressure { front Top 125 lb. APPRATED

back Bottom " "

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, No. of threads per inch Area supported by each stay

Over threads

Working pressure by Rules Screw stays: Material Tensile strength

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

Over threads



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 Seamless Steel External diameter ☒ Plain 1 1/4" Thickness ☒ 13 BWG No. of threads per inch ☒  
Pitch of tubes 1 5/16" Working pressure by Rules ☒ Manhole compensation: Size of opening in ☒  
shell plate 4" x 6" 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 ☒  
Internal diameter ☒ Working pressure by Rules ☒ Thickness of crown ☒ No. and diameter of ☒  
stays ☒ Inner radius of crown ☒ Working pressure by Rules ☒  
How connected to shell ☒ 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 ☒  
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,  
Downingtown 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 ☒  
while building ☒ During erection on board vessel -- Secty. Ys.  
(If not state date of approval.)  
Total No. of visits ☒

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.  
When the boiler has been satisfactorily installed on board the vessel in accordance with the rules, and to the Surveyors satisfaction, it will be eligible in my opinion to receive the record of DB 125-lb exhaust-gas fire.

Survey Fee ... \$ 75 : 00 : When applied for, 26<sup>th</sup> April 1937  
Travelling Expenses (if any) \$ 10 : 00 : When received, 21. 5. 1937

W. A. Cunham  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK SEP 1-1937  
Assigned See Gal Rep. 3238