

REPORT ON BOILERS.

No. 7273
SEP 11 1937

Received at London Office

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

No. in Reg. Book. Survey held at Downingtown Pa. Date, First Survey April 2nd Last Survey April 8th 1937
(Number of Visits 2.) Tons ^{Gross} _{Net}

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 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 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} 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.}

long. seams Double butt straps Diameter of rivet holes in ^{circ. seams} 1" Pitch of rivets 3.375" + 6.75" _{long. seams} 15/16"

Percentage of strength of circ. end seams ^{plate} 62.6 Percentage of strength of circ. intermediate seam ^{plate} _{rivets} 58.0 _{rivets}

Percentage of strength of longitudinal joint ^{plate} 86.0 Working pressure of shell by Rules 128 lb. _{rivets} 87.0 _{combined} 89.6

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

Material Tensile strength Smallest outside diameter

Length of plain part ^{top} Thickness of plates ^{crown} Description of longitudinal joint _{bottom}

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 Tensile strength 60,670,000 lb. Thickness ^{Top} 1/16" _{back} 1/16"

Mean pitch of stay tubes in nests Pitch across wide water spaces Working pressure ^{front} TOP 125 lb. APPRISED _{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 _{or} _{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 _{or} _{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" Stay 1 1/4" Thickness 13 BWG 5 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 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,
Downingtown Iron Works
Manufacturer,

Dates of Survey During progress of work in shops - - April 2^d & 8th 1937 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Sec'y Ops.

During erection on board vessel - - - 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 fired.

Survey Fee ... \$ 75 : 00 : When applied for, 26th April 1937

Travelling Expenses (if any) \$ 10 : 00 : When received, 21.5.1937

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

Committee's Minute NEW YORK SEP 1-1937

Assigned See Gal Rep. 3238

