

REPORT ON BOILERS.

No. 42307

Received at London Office - 8 MAY 1942

Originating Report... 19... When handed in at Local Office... 19... Port of Portland, Maine (New York)

Survey held at Portland, Maine, U.S.A. Date, First Survey... Last Survey... 19... See Back

on the S. S. "OCEAN LIBERTY" Tons {Gross 7173 Net 4278

S. Portland, Maine By whom built Todd-Bath Iron Shipbuilding Corporation Yard No. 1 When built 1942-2

made at Hamilton, Ohio By whom made General Machinery Corp. Engine No. 6522 When made 1942

made at Schenectady, N.Y. By whom made American Locomotive Co. Boiler No. S85, S87, S89 When made 1942

Indicated Horse Power 505 Owners British Government Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY

Constructors of Steel Worth Steel Co. (Letter for Record S)

Heating Surface of Boilers 7140 Sq. Feet Is forced draught fitted Yes Coal or Oil fired Coal

Kind Description of Boilers 3 Cylindrical Multitubular Working Pressure 220 lb.

Tested by hydraulic pressure to 380 lb. Date of test Aug. 19, 21, 25 of Certificate S85, S87, S89 Can each boiler be worked separately Yes

Area of Firegrate in each boiler 43 Sq. ft. No. and Description of Safety valves to each boiler Two Spring-Loaded Special High Lift.

Area of each (set of) valves per boiler {per Rule as approved 12.67 for ordinary valves as fitted 5.52 sq. ins. Pressure to which they are adjusted 220 lb. Are they fitted with easing gear Yes

Whether of donkey boilers, state whether steam from main boilers can enter the donkey boiler No Donkey Boiler

Distance between ~~boilers~~ or uptakes and bunkers ~~xxxxxx~~ 6'-6" No Woodwork oil fuel carried in the double bottom under boilers No Oil Fuel

Distance between shell of boiler and tank top plating 2'4" Is the bottom of the boiler insulated Yes

Internal diameter of boilers 14'-6 3/16" Length 11'-8 1/32" Shell plates: Material Steel Tensile strength 65,000-75,000 lb.

Thickness of shell plates 1 13/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams {end D.R. inter. None

Material of rivets T.R.D.B.S. Diameter of rivet holes in {circ. seams 1 1/2" long. seams 1 1/2" Pitch of rivets {10" 4.25"

Percentage of strength of circ. end seams {plate 64.6. rivets 47.0. Percentage of strength of circ. intermediate seam {plate 85.0. rivets None.

Percentage of strength of longitudinal joint {plate 85.0. rivets 93.5. combined 88.7.

Thickness of butt straps {outer 1 3/32" inner 1 7/32" No. and Description of Furnaces in each Boiler 3 Morrison Corrugated.

Material Steel Tensile strength 58,200 - 68,200 lb. Smallest outside diameter 41 1/2"

Thickness of plain part {top 9 3/16" bottom 9 3/16" Thickness of plates {crown 21/32" bottom 21/32" Description of longitudinal joint Welded.

Number of stiffening rings on furnace or c.c. bottom None

Material of plates in steam space: Steel Tensile strength 58,240 lb. Thickness 1 7/16" Pitch of stays 21 1/4" x 21"

How stays secured Double Nuts.

Material of plates: {front Steel back " Tensile strength {58,240-68,240 lb. Thickness {31/32" 13/16"

Pitch of stay tubes in nests 9.45" 9.7 Pitch across wide water spaces 14 1/2" x 8 1/4"

Material of girders to combustion chamber tops: Steel Tensile strength 64960-74960 lb. Depth and Thickness of girder

10 1/4" x 1 3/4" Length as per Rule 2'-10" Distance apart 11" No. and pitch of stays

3 @ 7 5/8" Combustion chamber plates: Material Steel

Tensile strength 58,240-68,240 lb. Thickness: Sides 25/32" Back 25/32" Top 25/32" Bottom 25/32"

Material of stays to ditto: Sides 9"x10 3/16" Back 9"x9" Top 11" x 7 5/8" Are stays fitted with nuts or riveted over Nuts.

Material of plate at bottom: Steel Tensile strength 58,240 - 68,240 lb.

Thickness 31/32" Lower back plate: Material Steel Tensile strength 58,240-68,240 lb. Thickness 29/32"

Material of stays at wide water space 14 1/2" x 9" Are stays fitted with nuts or riveted over Nuts.

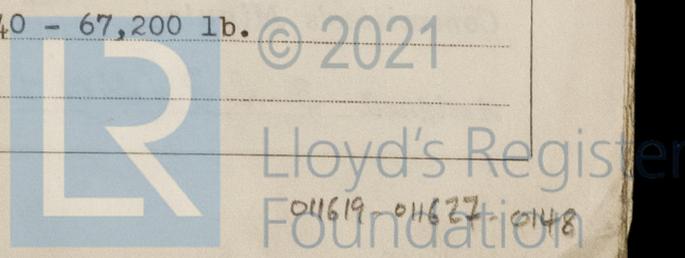
Material of stays: Steel Tensile strength 62720 - 71680 lb.

Thickness {At body of stay 3 1/2" or 3 3/4" No. of threads per inch 6.

Material of stays: Steel Tensile strength 58,240 - 67,200 lb.

Thickness {At turned off part 1 3/4" or 1 7/8" No. of threads per inch 9

Over threads 2" 2 1/8"



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Are the stays drilled at the outer ends No. Margin stays: Diameter At turned off part or Over threads 2" & 2 1/8"

No. of threads per inch 9.

Tubes: Material S.D. Steel External diameter Plain 3" Stay 3" Thickness .165" 3/8" & 5/16" No. of threads per inch 9.

Pitch of tubes 4 1/4" x 4 1/8" Manhole compensation: Size of opening None

End steel plate 12" x 16" Section of compensating ring No. of rivets and diameter of rivet holes

Outer row rivet pitch at ends Depth of flange if manhole flanged None Steam Dome: Material None

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 Thickness of crown No. and diameter of stays Inner radius of crown

How connected to shell Size of doubling plate under dome Diameter of rivet holes at ends

of rivets in outer row in dome connection to shell

Type of Superheater No. E. Marine Eng. Co. Type. Manufacturers of Tubes Combustion Eng. Co. Steel forgings " " " Steel castings " " "

Number of elements 58. each lb. Material of tubes S.D. Steel Internal diameter and thickness of tubes 7/8" x .093"

Material of headers S. D. Steel Tensile strength 62,000 Lb. Min. Thickness 1 1/8" Can the superheater be shut off from the boiler

the boiler be worked separately No. Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes.

Area of each safety valve 1.77 sq. ins. Are the safety valves fitted with easing gear Yes.

Pressure to which the safety valves are adjusted 220 lb/in² Hydraulic test pressure 1000 lb/in² forgings and castings 440 lb/in² and after assembly in place Are drain valves fitted to free the superheater from water where necessary yes

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

The foregoing is a correct description,
T. M. Main VICE PRESIDENT
 TODD-BATH IRON SHIPBUILDING CORP.

Dates of Survey During progress of work in shops -- See attached reports. Are the approved plans of boiler and superheater forwarded herewith approved (If not state date of approval.) 26th March, 1942.

while building During erection on board vessel --- continuous from 23 July, 1941 until 16th March, 1942. Total No. of visits 1

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers, built under the supervision of the Society's Surveyors, have now been fitted on board this vessel in accordance with the approved plans and the Society's Rules. The workmanship is good. For full particulars see attached boiler reports Nos. S 85, S 87 & S 89.

Survey Fee £ See Machinery When applied for, 10

Travelling Expenses (if any) £ Report : When received, 10

Ed B. Picketing & others
A. C. Hackell & C. Macpherson
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute NEW YORK APR 15 1942

Assigned 3 S B (Mkt) 220 lbs.

