

# REPORT ON BOILERS.

L.An. BLR. Rpt.  
No. 32 L.A.

Rpt. 5a.

Received at London Office - 4 JUN 1942

Date of writing Report ..... 19..... When handed in at London Office..... 19..... Port of LOS ANGELES, CALIFORNIA

No. in Reg. Book. Survey held at LOS ANGELES, CALIFORNIA Date, First Survey 2nd Nov. Last Survey 29th Nov. 1941

on the BRITISH GOVERNMENT FREIGHTERS s/s "Ocean Venus" (Number of Visits 18) Tons { Gross 7174  
Net 4272

Built at Richmond, Calif. By whom built Todd-California Shipbuilding Division of the Permanente Metals Corporation Yard No. 12 When built 1942

Engines made at Hamilton, Ohio By whom made General Machinery Corp Engine No. 6536 When made 1941

Boilers made at Los Angeles, California By whom made Western Pipe & Steel Co. Boiler No. L.A. When made 1941

Nominal Horse Power 505 Owners British Government Port belonging to London

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Lukens Steel Co., Bethlehem Steel Co., Taylor Pipe & Forge Works (Letter for Record.....)

Total Heating Surface of Boilers (1) 2380 Sq. Ft. Is forced draught fitted Yes Coal or Oil fired Yes

No. and Description of Boilers one (1) Scotch Type Working Pressure 220 lbs.

Tested by hydraulic pressure to 380 lbs. Date of test 29th Nov. 1941 No. of Certificate 32 L.A. Can each boiler be worked separately.....

Area of Firegrate in each boiler 43 sq. ft. 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.....  
as fitted.....

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 diameter of boilers 14' 6<sup>3</sup>/<sub>16</sub>" Length 11' 6<sup>15</sup>/<sub>16</sub>" Shell plates: Material Steel Tensile strength 65000/75000

Thickness 1<sup>13</sup>/<sub>32</sub>" Are the shell plates welded or flanged No Description of riveting: circ. seams { end Double zigzag  
inter. ---

Long. seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 1<sup>1</sup>/<sub>2</sub>" Pitch of rivets { 4.24"  
long. seams 1<sup>1</sup>/<sub>2</sub>" 10"

Percentage of strength of circ. end seams { plate 64.7 Percentage of strength of circ. intermediate seam { plate None fitted  
rivets 47 rivets None fitted

Percentage of strength of longitudinal joint { plate 85.0  
rivets 93.4  
combined 88.8

Thickness of butt straps { outer 1<sup>3</sup>/<sub>32</sub>" No. and Description of Furnaces in each Boiler Three (3) Morrison Type  
inner 1<sup>7</sup>/<sub>32</sub>"

Material Steel Tensile strength 58000/68000 Smallest outside diameter 3' 5<sup>9</sup>/<sub>16</sub>"

Length of plain part { top 9<sup>3</sup>/<sub>16</sub>" Thickness of plates { crown 2<sup>1</sup>/<sub>32</sub> Description of longitudinal joint Welded  
bottom 9<sup>3</sup>/<sub>16</sub>" bottom 2<sup>1</sup>/<sub>32</sub>

Dimensions of stiffening rings on furnace or c.c. bottom None fitted

End plates in steam space: Material Steel Tensile strength 58000/68000 Thickness 1<sup>1</sup>/<sub>32</sub>" R.D. 1<sup>1</sup>/<sub>32</sub>" Pitch of stays 24<sup>1</sup>/<sub>4</sub>" x 21"

How are stays secured Double Nuts

Tube plates: Material { front Steel Tensile strength { 58000/68000 Thickness { 1<sup>1</sup>/<sub>32</sub>" F  
back Steel 58000/68000 1<sup>3</sup>/<sub>16</sub>" B

Mean pitch of stay tubes in nests 9<sup>7</sup>/<sub>16</sub>" Pitch across wide water spaces 14<sup>1</sup>/<sub>2</sub>" x 8<sup>1</sup>/<sub>4</sub>"

Girders to combustion chamber tops: Material Steel Tensile strength 65000/75000 Depth and Thickness of girder.....

centre 10<sup>1</sup>/<sub>4</sub>" - 2 x 7<sup>7</sup>/<sub>8</sub>" Length as per Rule 2' 10" Distance apart 11" No. and pitch of stays.....

each 3 x 7<sup>5</sup>/<sub>8</sub>" Combustion chamber plates: Material Steel

tensile strength 58000/68000 Thickness: Sides 25<sup>25</sup>/<sub>32</sub>" Back 23<sup>23</sup>/<sub>32</sub>" Top 25<sup>25</sup>/<sub>32</sub>" Bottom 25<sup>25</sup>/<sub>32</sub>"

pitch of stays to ditto: Sides 9" x 10<sup>7</sup>/<sub>32</sub>" Back 9" x 9" Top 11" x 7<sup>5</sup>/<sub>8</sub>" Are stays fitted with nuts or riveted over Nuts

front plate at bottom: Material Steel Tensile strength 58000/68000

thickness 1<sup>1</sup>/<sub>32</sub>" Lower back plate: Material Steel Tensile strength 58000/68000 Thickness 1<sup>1</sup>/<sub>32</sub>"

pitch of stays at wide water space 15" x 9" Are stays fitted with nuts or riveted over Nuts

Main stays: Material Steel Tensile strength 65000/75000

diameter { At body of stay 3<sup>1</sup>/<sub>2</sub>" No. of threads per inch Six (6)  
or 3<sup>5</sup>/<sub>4</sub>"

crew stays: Material Steel Tensile strength 58000/68000

diameter { At turned off part 1<sup>7</sup>/<sub>8</sub>" No. of threads per inch Nine (9)  
or 1<sup>3</sup>/<sub>4</sub>"

Are the stays drilled at the outer ends No Margin stays: Diameter  $\left\{ \begin{array}{l} \text{At turned off part} \\ \text{or} \\ \text{Over threads} \end{array} \right. 2\frac{1}{8}'' \quad 2''$

No. of threads per inch Nine (9)

Tubes: Material Steel Sol. D External diameter  $\left\{ \begin{array}{l} \text{Plain} \\ \text{Stay} \end{array} \right. 3''$  Thickness  $\left\{ \begin{array}{l} 3\frac{1}{8}'' \\ 5/16'' \end{array} \right.$  No. of threads per inch Nine (9)

Pitch of tubes \_\_\_\_\_ Manhole compensation: Size of opening in  
 shell plate \_\_\_\_\_ 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  $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$

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 and pitch  
 of rivets in outer row in dome connection to shell \_\_\_\_\_

Type of Superheater \_\_\_\_\_ Manufacturers of  $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel forgings} \\ \text{Steel castings} \end{array} \right.$

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 \_\_\_\_\_

Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressure  
 tubes \_\_\_\_\_ forgings and castings \_\_\_\_\_ and after assembly in place \_\_\_\_\_ Are drain cocks of  
 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 Yes

The foregoing is a correct description,  
 by J. F. Muelich ASST. SECRETARY Manufacturer

Dates of Survey  $\left\{ \begin{array}{l} \text{During progress of} \\ \text{work in shops - -} \\ \text{while} \\ \text{building} \end{array} \right. \left\{ \begin{array}{l} \text{During erection on} \\ \text{board vessel - - -} \end{array} \right. 2\text{nd Nov. to 29th Nov. 1941}$  Are the approved plans of boiler and superheater forwarded herewith Approved  
 (If not state date of approval.) April 28th 1941

Total No. of visits 18

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. L.An. BLr. Rpt. No.1

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) The boiler, so far as stated above,  
has been built under Special Survey in accordance with the Rules and approved plans, and the  
workmanship and material is good. It has been satisfactorily tested to 380 lbs. per sq. inch  
by hydraulic pressure in the presence of the undersigned. It has been forwarded to Richmond,  
California, to be fitted on board, and when this has been done in accordance with the Rules, the  
vessel will be eligible, in my opinion, to receive the notation.  
\*LMC with date, and 220 lbs. and F. D. in the Register Book.

Survey Fee ... \$ 108.61 : When applied for, \_\_\_\_\_ 19  
 Travelling Expenses (if any) £ : : When received, \_\_\_\_\_ 19

James Anderson  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK MAY 13 1942

Assigned See Richmond Rpt. No. 12

