

REPORT ON BOILERS.

Received at London Office 10 APR 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 22nd July 1941 Last Survey 27th September 1941

on the BRITISH GOVERNMENT FREIGHTERS (Number of Visits 21) Tons {Gross Net

Built at By whom built Yard No. When built

Engines made at By whom made Engine No. When made

Boilers made at Los Angeles, California By whom made Western Pipe & Steel Co. Boiler No 16 L.A. When made 1941

Nominal Horse Power Owners Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Luckens Steel Co., Bethlehem Steel Co., Taylor Pk (Letter for Record)

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

No. and Description of Boiler One (1) Scotch Type Working Pressure 220 lbs.

Tested by hydraulic pressure to 380 lbs. Date of test 27th Sept. 1941 of Certificate 16 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 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 diameter of boilers 14' 6 3/16" Length 11' 6 15/16" Shell plates: Material Steel Tensile strength 65000/ 75000

Thickness 1 13/32" Are the shell plates welded or flanged No Description of riveting: circ. seams {end Double zigzag inter. 4.25"

Long. seams T.R.D.B.S. Diameter of rivet holes in {circ. seams 1 1/8" long. seam 1 1/8" Pitch of rivets {10"

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

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

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

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

Length 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

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

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

How are stays secured Double Nuts

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

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

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

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

in each 3 x 7 5/8" Combustion chamber plates: Material Steel

Tensile strength 58000/ 68000 Thickness: Sides 25/32" Back 23/32" Top 25/32" Bottom 25/32"

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

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

Thickness 1 1/32" Lower back plate: Material Steel Tensile strength 58000/ 68000 Thickness 1 1/32"

Pitch of stays at wide water space 18" x 10" 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 1/2" or Over threads 3 3/4" No. of threads per inch Six (6)

Screw stays: Material Steel Tensile strength 58000/ 68000

Diameter {At turned off part or Over threads 1 7/8" 1 3/4" No. of threads per inch Nine (9)



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

No. of threads per inch Nine (9)

Tubes: Material Steel Sol. Dr. External diameter $\left\{ \begin{array}{l} \text{Plain } 3'' \\ \text{Stay } 3'' \end{array} \right.$ Thickness $\left\{ \begin{array}{l} .165'' \\ 3/8'' \quad 5/16'' \end{array} \right.$ No. of threads per inch Nine (9)

Pitch of tubes $4 \frac{1}{4}'' \times 4 \frac{1}{8}''$ 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 $\left\{ \begin{array}{l} \text{Plata} \\ \text{Rivets} \end{array} \right.$

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 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 Yes

WESTERN PIPE & STEEL COMPANY OF CALIFORNIA The foregoing is a correct description,
J. J. Mueller ASST. SECRETARY Manufacturer.

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - - -} \end{array} \right. \end{array} \right.$ 22nd July 1941 to 27th Sept. 1941 Are the approved plans of boiler and superheater forwarded herewith Approved
 (If not state date of approval.) April 28, 1941

Total No. of visits 21

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 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 *IMC with date, and 220 lbs. and F. D. in the Register Book. It has been satisfactorily tested to 380 lbs. per square inch by hydraulic pressure in the presence of the undersigned.

Survey Fee ... £ See rpt : No. : 13 } When applied for, in Jan. 19
 Travelling Expenses (if any) £ : : } When received, 19

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

Committee's Minute NEW YORK FEB 11 1942 *J.E.J.*

Assigned See Richmond Rpt. No. 6.

