

REPORT ON BOILERS.

No. **42561**

Received at London Office

Date of writing Report 19... Local Port of **NEW YORK**

No. in Reg. Book **Surgery held at SCHENECTADY, N. Y.** Date First Survey **May 13th** Last Survey **June 22nd, 1942**

on **One Boiler of U.S. Navy Contract Nos. LL-97320 for Twenty Boilers** Tons **Gross** **Net**

Built at - By whom built - Yard No. - When built -
Engines made at - By whom made - Engine No. **G.O. 270006** When made -
Boilers made at **Schenectady, N. Y.** By whom made **American Locomotive Co.** Boiler No. **#13** When made **1942**
Nominal Horse Power - Owners **British Government** Port belonging to -

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY

Manufacturers of Steel **Bethlehem Steel Co. & Worth Steel Co.** (Letter for Record **S**)

Total Heating Surface of Boilers **2380 sq. ft.** Is forced draught fitted **Yes** Coal or Oil fired **Coal**

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

Tested by hydraulic pressure to **380 lbs.** Date of test **June 22, 1942** No. of Certificate **S-103** 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

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' 8-1/32"** Shell plates: Material **Steel** Tensile strength **65000/75000 lbs.**

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

Long. seams **T.R.D.B.S.** Diameter of rivet holes in { circ. seams **1 1/8"** Pitch of rivets { **4 1/2"** long. seams **1 1/8"** **5" and 10"**

Percentage of strength of circ. and seams { plate **65.2** rivets **46.3** Percentage of strength of circ. intermediate seams { plate **None** rivets **None**

Percentage of strength of longitudinal joint { plate **85** rivets **93.5** rivets **88.7**

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

Material **Steel** Tensile strength **58000/68000 lbs.** Smallest outside diameter **41 1/2"**

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 lbs.** Thickness **1-7/16"** Pitch of stays **21 1/2" x 21 1/2"**

How are stays secured **Double nuts.**

Tube plates: Material { front **Steel** back **Steel** Tensile strength { **58000/68000 lbs.** Thickness { **31/32"** **13/16"**

Mean pitch of stay tubes in nests **10"** Pitch across wide water spaces **14 1/2" x 8 1/4"**

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

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

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

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

Pitch of stays to ditto: Sides **9" x 10-3/16"** 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 lbs.**

Thickness **31/32"** Lower back plate: Material **Steel** Tensile strength **58000/68000 lbs.** Thickness **29/32"**

Pitch of stays at wide water space **14 1/2" x 9"** Are stays fitted with nuts or riveted over **Nuts on margin stays, balance riveted over.**

Main stays: Material **Steel** Tensile strength **60000/70000 lbs.**

Diameter { At body of stay, **3-1/2"** or **3-3/4"** No. of threads per inch **Six (6)**

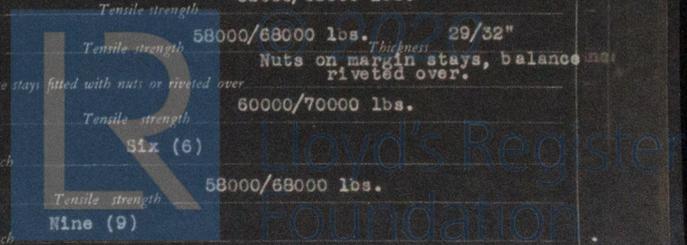
Screw stays: Material **Steel** Tensile strength **58000/68000 lbs.**

Diameter { At turned off part, **1-3/4"**, **1-7/8"**, **2"**, **2-1/8"** No. of threads per inch **Nine (9)**

or **1-3/4"**, **1-7/8"**, **2"**, **2-1/8"** No. of threads per inch

If not, state whether, and when, one will be sent? No Is a Report also sent on the Hull of the Ship? (Printed in U.S.A.)

If copy of this Report has been sent to the Bureau of Naval Affairs, a separate copy should not be sent.



Are the stays drilled at the ends No Yes Diameter At turned off part Over threads 2" & 2-1/8"

No. of threads per inch Nine (9)

Tubes: Material External diameter { 3" 3" } Thickness { .165" 3/8" & 5/16" } No. of threads per inch Nine (9)

Pitch of tubes 4-1/4" x 4-1/8" Manhole compensation: Size of opening in shell plate None 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 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 -

How connected to shell - Inner radius of crown - 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 N.E. Marine Engine Co. Manufacturers of { Tubes Combustion Engineering Co. Steel forgings " " " Steel castings " " " }

Number of elements 58 Material of tubes Seamless Carbon Steel Internal diameter and thickness of tubes .689" x .093"
A.S.T.M. A-192-40 Grade A

Material of header Seamless Carbon Steel Internal diameter and thickness of tubes .689" x .093"
A.S.T.M. A-106-40 Grade B Strength 60000 lbs. Thickness 1-1/8" Can the superheater be shut off and the boiler be worked separately Yes 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 - 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 Yes

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

The foregoing is a correct description,
[Signature]
 Mechanical Engineer, American Locomotive Co. Manufacturer

Dates of Survey { During progress of work in shops - - May 13, 14, 21, 25, 27, 27, 28, 29, June 4, 6, 9, 10, 18, 22, 1942 } Are the approved plans of boiler and superheater forwarded herewith No
 { During erection on board vessel - - - } (If not state date of approval.) Approved 21st Apr., 1942

Total No. of visits -

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. "OCEAN VANGUARD" Richmond, Calif. Rpt. No. 1

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under Special Survey in accordance with the Rules and approved plans. The workmanship and materials are good. It has been satisfactorily tested to 380 lbs. hydrostatic pressure in the presence of the undersigned. It has been forwarded to Portland, Maine, to be exported to an unknown destination arranged between the U.S.A. and British Government Authorities.

If the boiler is fitted on board a vessel classed with the Society, it will be eligible, in my opinion, to receive the notation 220 lbs.

Survey Fee 100.00 When applied for, June 29, 1942
Travelling Expenses (if any) 40.00 When received, 10



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