

REPORT ON BOILERS.

No. 42518

Received at London Office - 3.11.11.1942

Date of writing Report 19... When handed in at Local Office 19... Port of NEW YORK

No. in Reg. Book. Survey held at SCHENECTADY, N. Y. Date, First Survey April 29th, Last Survey May 29th, 19 42

on the One Boiler of U. S. Navy Contract No. LL-97320 for Twenty Boilers Tons Gross 15 Net

s.s. "Ocean Crusader" (Number of Visits 15)

Built at - By whom built - Yard No. - When built -

Engines made at - By whom made - Engine No. - When made -

Boilers made at Schenectady, N. Y. By whom made American Locomotive Co. Boiler No. #8 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 May 29, 1942 No. of Certificate S-98 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 - 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' 6-3/16" 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 1/2" Pitch of rivets { end 4 1/2"
long. seams 1 1/2" 5" and 10"

Percentage of strength of circ. end seams { plate 65.2 Percentage of strength of circ. intermediate seam { plate None
rivets 46.3 rivets -

Percentage of strength of longitudinal joint { plate 85.
rivets 93.5
combined 88.7

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

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

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

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 1/4" x 21"

How are stays secured Double nuts

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

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

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" No. of threads per inch Six (6)
or 3-3/4"
Over threads -

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

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

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W254-0016

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 Nine (9) Tubes: Material External diameter { Plain 3" Stay 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 - 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 N.E. Marine Engine Co. Manufacturers of { Tubes Combustion Engineering Co. Steel forgings " " " Steel castings " " " Internal diameter and thickness of tubes .689" x .093" Number of elements 58 Material of tubes Seamless Carbon Steel A.S.T.M. A-192-40 Grade A 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 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,

R. G. Smith

Mechanical Engineer, American Locomotive Co.

Dates of Survey { During progress of work in shops - - Apr. 29, 30, May 6, 7, 8, 11, 12, 13, 14, 21, 25, 26, 27, 28 & 29, 1942 Are the approved plans of boiler and superheater forwarded herewith No (If not state date of approval.) Approved Apr. 21, 1942 while building { During erection on board vessel - - - 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, Cal. 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.

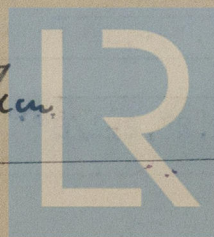
If the boiler is fitted on board a vessel classed with the Society, it will be eligible, in my opinion, to receive the notation 220 lbs.

Survey Fee ... \$ 100.00 : When applied for, June 12 1942 Travelling Expenses (if any) \$ 45.00 : When received, 19

W. Croft
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK JUN 17 1942

Assigned Transmittal to L.R.M. No Action



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