

REPORT ON BOILERS.

RICHMOND

No. 9

7-9 MAY 1942

Received at London Office

Report made on Feb. 23, 1942 When handed in at Local Office Feb. 23, 1942

Port of RICHMOND, CALIFORNIA

Survey held at RICHMOND, CALIFORNIA Date, First Survey November 17th, 1941 Last Survey Feb. 21st, 1942

on the S. S. "OCEAN VISION"

(Number of Visits 62)

Tons { Gross 7174
Net 4272

By whom built TODD-CALIFORNIA SHIPBUILDING DIVISION of Yard No. 9 When built 1942

made at HAMILTON, OHIO By whom made GENERAL MACHINERY CORP. Engine No. 6528 When made 1941

made at LOS ANGELES, CALIF. By whom made WESTERN PIPE & STEEL CO. Boiler No. 20, 23, 24 When made 1941

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.

(Letter for Record S)

Heating Surface of Boilers 7140 sq. ft. Is forced draught fitted YES Coal or Oil fired COAL

Description of Boilers 3 SCOTCH MULTITUBULAR Working Pressure 220 lbs.

hydraulic pressure to 380 Date of test See Los Angeles Reports No. of Certificate 20, 23, & 24 Can each boiler be worked separately YES

Firegrate in each boiler 43 sq. ft. No. and Description of Safety valves to each boiler 2 SPRING LOADED SPECIAL HIGH LIFT

each set of valves per boiler { per Rule APPROVED 12.67 for ordinary valves
as fitted 5.52 sq. in. Pressure to which they are adjusted 220 lbs. Are they fitted with easing gear YES

No. donkey boilers, state whether steam from main boilers can enter the donkey boiler

Distance between boilers or uptakes and bunkers or woodwork NO WOODWORK Is oil fuel carried in the double bottom under boilers NO

Distance between shell of boiler and tank top plating 2 feet Is the bottom of the boiler insulated YES

Internal diameter of boilers 14' 6 3/16" Length 11' 9" Shell plates: Material STEEL Tensile strength 65000/75000 lbs.

1 13/32" Are the shell plates welded or flanged NO Description of riveting: circ. seams { end D.R. per sq. in.

ms T.R.D.B.S. Diameter of rivet holes in { circ. seams 1.5" Pitch of rivets { 4.25" inter. 10" long. seams 1.5"

of strength of circ. end seams { plate 64.7 rivets 47 Percentage of strength of circ. intermediate seam { plate 85 rivets 93.4 combined 88.8

of strength of longitudinal joint { plate 85 rivets 93.4 combined 88.8

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

STEEL Tensile strength 58,000/68000 lbs./sq.in. Smallest outside diameter 3' 5.57"

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

is of stiffening rings on furnace or c.c. bottom NONE

es in steam space: Material STEEL Tensile strength 58000/68000 lbs. / sq. in. Thickness 1 1/32" R.D. 1 1/32" Pitch of stays 21.25" x 21"

stays secured DOUBLE NUTS

ates: Material { front STEEL Tensile strength { 58000/68000 lbs per sq. in. Thickness { 1 1/32" back STEEL 58000/68000 " " " 1 1/16"

h of stay tubes in nests 9.56 " 9.7 Pitch across wide water spaces 14.5" x 8.25"

to combustion chamber tops: Material STEEL Tensile strength 65000/75000 lbs./sq.in. Depth and Thickness of girder

10.25", 2 @ 7/8" Length as per Rule 2' 10" Distance apart 11" No. and pitch of stays

3 @ 7.625" Combustion chamber plates: Material STEEL

length 58000/68000 lbs./sq.in. Thickness: Sides 25/32" Back 23/32" Top 25/32" Bottom 25/32"

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

ate at bottom: Material STEEL Tensile strength 58000/68000 lbs. / sq. in

1 1/32" Lower back plate: Material STEEL Tensile strength 58000/68000 lbs. / sq. in. Thickness 1 1/32"

stays at wide water space 18" x 9" Are stays fitted with nuts or riveted over NUTS

ys: Material STEEL Tensile strength 65000/75000 lbs. / sq. in.

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

{ Over threads 3 3/4"

tays: Material STEEL Tensile strength 58000/68000 lbs./sq. in.

{ At turned off part, No. of threads per inch 9

{ Over threads 1 7/8" sides, 1 3/4" Back

59 No 9

Are the stays drilled at the outer ends ☐ NO

No. of threads per inch 9

Margin stays: Diameter { At turned off part, or Over threads. 2 1/8", 2"

Tubes: Material 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"

END

Shell plate 16" x 12" Section of compensating ring NONE

Manhole compensation: Size of

Outer row rivet pitch at ends -- Depth of flange if manhole flanged 3 3/4" No. of rivets and diameter of rivet holes --

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

stays -- Inner radius of crown --

How connected to shell -- Size of doubling plate under dome --

of rivets in outer row in dome connection to shell -- Diameter of rivet holes

Type of Superheater N.E.M. CO.

Manufacturers of { Tubes DETROIT SEAMLESS STEEL TUBES CO. Steel forgings COMBUSTION ENGINEERING CO. Steel castings NONE

Number of elements 174 for 3 blvs. Material of tubes STEEL

Material of headers SEAMLESS STEEL Tensile strength 60,000 lbs./sq. in. Internal diameter and thickness of tubes .689" .093"

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

Area of each safety valve 1.75 sq. in. Are the safety valves fitted with easing gear NO

Pressure to which the safety valves are adjusted 220 lbs./sq. in.

tubes 1000 lbs./sq. in. forgings and castings 440 lbs./sq. in. and after assembly in place 380 lbs. Hydraulic test

valves fitted to free the superheater from water where necessary YES Are drain

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

The foregoing is a correct description,

[Signature]

Dates of Survey { During progress of work in shops - - Aug. 27, 1941 to Oct. 31, 1941 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval) April 28, '41, 5/11/41

while building { During erection on board vessel - - Nov. 17, 1941 to Feb. 21, 1941 Total No. of visits 62

Is this Boiler a duplicate of a previous case YES If so, state Vessel's name and Report No. "OCEAN VANGUARD", "OCEAN VIGIL VOICE", ETC., RICHMOND, CAL. NO. 1, 2, 3, 4

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers, constructed under Special (See Los Angeles Boiler Reports No. 20, 23, & 24, attached hereto), have now been fitted on board this vessel accordance with the approved plans and the requirements of the Rules. The safety valves were adjusted under to 220 lbs. per sq. in. The boilers were tried under working conditions with good results and, in our opinion now in good and safe condition.

Survey Fee ... £Inclusive fee to be charged

Travelling Expenses (if any) £in London :

When applied for, 19

When received, 19

[Signature] James F. Robertson

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute NEW YORK MAR 18 1942

Assigned 3 S.B. (Net) 220 lbs.