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REPORT ON BOILERS.

No. 24

Received at London Office - 8 SEP 1942

Writing Report July 29th, 1942 When handed in at Local Office July 29th, 1942 Port of RICHMOND, CALIFORNIA

Survey held at RICHMOND, CALIFORNIA Date, First Survey April 23rd, 1942 Last Survey June 8th 1942

on the S. S. "OCEAN VERITY"

(Number of Visits 44.)

Tons { Gross 7174 Net 4272

at RICHMOND, CALIF. By whom built TODD-CALIFORNIA SHIPBUILDING DIVISION of Yard No. 24 When built 1942

The Permanente Metals Corporation

es made at HAMILTON, OHIO By whom made GENERAL MACHINERY CORP. Engine No. 6719 When made 1942

s made at LOS ANGELES, CALIF. By whom made WESTERN PIPE & STEEL CO. Boiler No. 49, 50, 51 When made 1942

nal 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

by hydraulic pressure to 380 Date of test See Los Angeles Reports No. of Certificate 49, 50, 51 Can each boiler be worked separately YES

of 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 as fitted 5.52 sq. ins. Pressure to which they are adjusted 220 lbs. Are they fitted with easing gear YES

of 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' 6 15/16" Shell plates: Material STEEL Tensile strength 65000/75000 lbs. per sq. in.

Are the shell plates welded or flanged NO Description of riveting: circ. seams { end D.R. per sq. in. inter --

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

Percentage of strength of circ. intermediate seam { plate -- rivets --

Percentage of strength of longitudinal joint { plate 85.0 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 58000/68000 lbs. per sq. in. Smallest outside diameter 3' 5.57"

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

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

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

stays secured DOUBLE NUTS sq. in. 1 1/32"

ates: Material { front STEEL Tensile strength { 58000/68000 lbs. per sq. in. Thickness { 1 1/32" back STEEL " " " " " 13/16"

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

to combustion chamber tops: Material STEEL Tensile strength 65000/75000 lbs. per 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. per 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. per square inch

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

stays at wide water space 15" x 9" Are stays fitted with nuts ~~or riveted over~~ NUTS

register of Stays: Material STEEL Tensile strength 65000/75000 lbs. per square inch

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

{ Over threads 3 3/4"

ays: Material STEEL Tensile strength 58000/68000 lbs. per square inch

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

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

Are the stays drilled at the outer ends NO Margin stays: Diameter { At turned off part, --- or 2 1/8", 2" Over threads ---

No. of threads per inch 9

Tubes: Material STEEL External diameter { Plain 3" Stay 3" Thickness { 3/8", 5/16" .165" No. of threads per inch 9

Pitch of tubes 4 1/4" x 4 1/8" Manhole compensation: Size of opening ---

End stay plate 16" x 12" Section of compensating ring NONE No. of rivets and diameter of rivet holes ---

Outer row rivet pitch at ends --- Depth of flange if manhole flanged 3 3/4" Steam Dome: Material NONE

Tensile strength --- Thickness of shell --- Description of longitudinal joint ---

Diameter of rivet holes --- Pitch of rivets --- Percentage of strength of joints { 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 stays ---

of rivets in outer row in dome connection to shell ---

Type of Superheater N. E. M. Co. Manufacturers of { Tubes DETROIT SEAMLESS STEEL TUBES CO. Steel forgings COMBUSTION ENGINEERING COMPANY Steel castings NONE

Number of elements 174 Material of tubes STEEL Internal diameter and thickness of tubes .689", .093"

Material of headers SEAMLESS STEEL Tensile strength 60,000 lbs. per sq. in. Thickness 1 1/8" Can the superheater be shut off from the boiler NO

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 NO

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. per square inch Hydraulic test pressure ---

tubes 1000 lbs. per sq. in. forgings and castings 440 lbs. per sq. in. and after assembly in place 380 lbs. Are drain by hydraulic test ---

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. S. Day

Dates of Survey { During progress of work in shops - - } April 1st to April 29, 1942 Are the approved plans of boiler and superheater forwarded herewith NO (If not state date of approval) April 28, 1941 5/11/42

while building { During erection on board vessel - - - } May 4th to June 8th, 1942 Total No. of visits 44

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, 5, 9, 10, 11, 12, 14, 18, 21 and 23

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

These boilers were constructed under Special Survey (See Los Angeles Boiler Reports Nos. 49, 50 and 51 attached hereto) have now been fitted on board this vessel in accordance with the approved plans and the requirements of the Rules. The safety valves were adjusted under steam to 220 lbs. per square inch. The boilers were tried under working conditions with good results and, in our opinion, are now in good and safe condition.

Survey Fee ... £ Inclusive fee to be charged ... When applied for, 19

Travelling Expenses (if any) £ in London ... When received, 19

For self and J. F. Robertson:
John M. Robertson
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute NEW YORK AUG 26 1942

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

