

# REPORT ON BOILERS.

OCT 1947

Received at London Office

Date of writing Report 18th Aug. 1947 When handed in at Local Office 18th Aug. 1947. Port of PHILADELPHIA, PA.

No. in Survey held at Chester, Pa. Date, First Survey 24th February, Last Survey 10th June, 1947.

69099 on the Steel Twin Screw Steamer, "ESSO EL SALVADOR", Ex. "Avila" (Number of Visits 28) Tons {Gross 1691 Net 948}

Master - Built at Middlesborough By whom built Smith's Dock Co. Ltd. Yard No. - When built 1938-8

Engines made at Middlesborough By whom made Smith's Dock Co. Ltd. Engine No. - When made 1938-8

Boilers made at Middlesborough By whom made Smith's Dock Co. Ltd. Boiler No. - When made 1938-8

Nominal Horse Power 231 Owners Panama Transport Co. Port belonging to Panama

## PROPANE TANK - NO.2 -

### MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Shell Plates - Carnegie Illinois Steel Corp.

Dished ends - Lukens Steel Co.

Manufacturers of Steel Welded Dome Conn.- Lenape Hydraulic Pressing & Forging Co. (Letter for Record)

Total Heating Surface of Boilers - Is forced draught fitted - Coal or Oil fired -

No. and Description of Tank 27'2-3/8" long X 11'-10" ins. diam. Working Pressure 250#/sq"

Tested by hydraulic pressure to 425 lbs. Date of test 28 Mar. '47. of Certificate 793 Can each boiler be worked separately -

Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler 2 valves resilient gasketed type 2-1/8" diam. spring loaded

Area of each set of valves per boiler {per Rule - as fitted 6.88 sq.in. Pressure to which they are adjusted 250 lbs. Are they fitted with easing gear No

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 dia. of boilers 11'10" Length 27'2-3/8" Shell plates: Material O.H. Firebox quality Tensile strength 70,000 lbs.

Thickness 1-5/16" Are the shell plates welded or flanged welded Description of riveting: circ. seams {end - inter. -

long. seams welded Diameter of rivet holes in {circ. seams - long. seams - Pitch of rivets { - -

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

Percentage of strength of longitudinal joint {plate - rivets - combined - Working pressure of shell by Rules

Thickness of butt straps {outer - inner - No. and Description of Furnaces in each Boiler

Material - Tensile strength - Smallest outside diameter -

Length of plain part {top - bottom - Thickness of plates {crown - bottom - Description of longitudinal joint -

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules -

End plates in steam space: Material Sil. H. T. Fire-box Steel Tensile strength 70,000 Thickness 1-5/16" Pitch of stays

How are stays secured Working pressure by Rules

Tube plates: Material {front - back - Tensile strength { Thickness {

Mean pitch of stay tubes in nests Pitch across wide water spaces Working pressure {front - back -

Girders to combustion chamber tops: Material Tensile strength Depth and thickness of girder

at centre Length as per Rule Distance apart No. and pitch of stays

in each Working pressure by Rules Combustion chamber plates: Material

Tensile strength Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top Are stays fitted with nuts or riveted over

Working pressure by Rules Front plate at bottom: Material Tensile strength

Thickness Lower back plate: Material Tensile strength Thickness

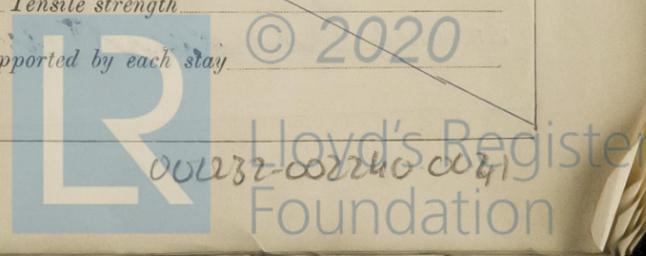
Pitch of stays at wide water space Are stays fitted with nuts or riveted over

Working Pressure Main stays: Material Tensile strength

Diameter {At body of stay, or Over threads No. of threads per inch Area supported by each stay

Working pressure by Rules Screw stays: Material Tensile strength

Diameter {At turned off part, or Over threads No. of threads per inch Area supported by each stay



Working pressure by Rules \_\_\_\_\_ Are the stays drilled at the outer ends \_\_\_\_\_ Margin stays: Diameter { <sup>At turned off part,</sup> \_\_\_\_\_  
 { <sup>or</sup> \_\_\_\_\_  
 { <sup>Over threads</sup> \_\_\_\_\_

No. of threads per inch \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_

**Tubes:** Material \_\_\_\_\_ External diameter { <sup>Plain</sup> \_\_\_\_\_ Thickness { \_\_\_\_\_ No. of threads per inch \_\_\_\_\_  
 { <sup>Stay</sup> \_\_\_\_\_

Pitch of tubes \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ **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 { <sup>Plate</sup> \_\_\_\_\_  
 { <sup>Rivets</sup> \_\_\_\_\_

Internal diameter \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ Thickness of crown \_\_\_\_\_ No. and diameter of  
 stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_

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 { <sup>Tubes</sup> \_\_\_\_\_  
 { <sup>Steel castings</sup> \_\_\_\_\_

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 \_\_\_\_\_ Working pressure as per  
 Rules \_\_\_\_\_ Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressure: \_\_\_\_\_  
 tubes \_\_\_\_\_, 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 \_\_\_\_\_

The foregoing is a correct description,  
 SUN SHIPBUILDING & DRY DOCK CO. \_\_\_\_\_  
*W. McConechy* \_\_\_\_\_  
 Manufacturer

Dates of Survey { <sup>During progress of</sup> \_\_\_\_\_ Are the approved plans of boiler and superheater forwarded herewith **yes**  
 { <sup>work in shops - -</sup> \_\_\_\_\_  
 { <sup>while</sup> \_\_\_\_\_  
 { <sup>building</sup> { <sup>During erection on</sup> \_\_\_\_\_  
 { <sup>board vessel - - -</sup> \_\_\_\_\_

Total No. of visits \_\_\_\_\_

Is this Boiler a duplicate of a previous case \_\_\_\_\_ If so, state Vessel's name and Report No. \_\_\_\_\_

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) **This tank is of all welded construction**  
 all welds being carried out by the "Unionmelt" process using UX-40 Rod. All seams being afterwards  
 radiographed. Tank was stress relieved at 1200° F and held at that temperature for six hours. The  
 specified physical tests for welding were carried out as per Rule, and found to comply with the  
 Society's requirements, for Class A pressure vessels. Tank was tested by hydraulic pressure to 425  
 lbs. per sq. inch. All seams were hammer tested at 375 lbs. per sq. in., same being found sound and  
 tight under these conditions.

The workmanship is good throughout.

Survey Fee ... .. \$ 10- : | When applied for, 25/8/19 4)

Travelling Expenses (if any) \$ 3.50 : | When received, \_\_\_\_\_ 19 \_\_\_\_\_

*W. McConechy*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute \_\_\_\_\_  
 Assigned *Transmit to London* \_\_\_\_\_

NEW YORK SEP 17 1947