

REPORT ON BOILERS.

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Report of writing Report 15th Oct. 1940 When handed in at Local Office 22nd Oct. 1940 Port of Baltimore, Maryland

No. in Survey held at Baltimore, Maryland Date, First Survey 27th August Last Survey 10th September 1940
 g. Book. 7056 on the Steel Single Screw Steamship "KALANI" (Number of Visits 5) Gross 5306.9 Tons Net 3412
 Built at Seattle, Washington By whom built Skinner & Eddy Corp Yard No. 21 When built 1918
 Engines made at Sechenetady By whom made General Electric Co. Engine No. 13427 When made 1918
 Boilers made at Seattle, Washgtn By whom made Commercial Boiler Works Boiler No. 5376 When made 1918
 Indicated Horse Power 509.7 Owners Ministry of Shipping Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Luskens Steel Co., Coatsville, Pa. (Letter for Record No.)
 Total Heating Surface of Boilers 8085 (oil) & 7425 (COAL) Is forced draught fitted No. Coal or Oil fired Oil
 and Description of Boilers Three Single Endes - Multitubular Working Pressure 210 lb
 Tested by hydraulic pressure to 315 Date of test 7-1918 No. of Certificate Can each boiler be worked separately Yes
 Area of Firegrate in each Boiler oil fired No. and Description of safety valves to each boiler Two - Lunkemeier - Twin, approved.
 Area of each set of valves per boiler (coal - 70 sq ft) Pressure to which they are adjusted 210 lb Are they fitted with easing gear Yes
 In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No Donkey Boilers fitted
 Smallest distance between boilers or uptakes and bunkers or woodwork 4'-6" Is oil fuel carried in the double bottom under boilers No.
 Smallest distance between shell of boiler and tank top plating 25 inches Is the bottom of the boiler insulated Yes.
 Largest internal dia. of boilers 14'-9" Length 11'-0" Shell plates: Material Steel OK Tensile strength 60,000 lb 71680
 Thickness 1 9/16" Are the shell plates welded or flanged flanged Description of riveting: circ. seams Double Riveted 22
 Circ. seams Two Rivets Double butt Diameter of rivet holes in { circ. seams 1 1/8" Pitch of rivets { 10" & 5"
 { long seams 1 1/2" {
 Percentage of strength of circ. end seams { plate 64.06 % Percentage of strength of circ. intermediate seam { plate 84.4 %
 { rivets 56 % { rivets 85.91 %
 Percentage of strength of longitudinal joint { plate 85.15 % Working pressure of shell by Rules 229.
 { combined 85.15 % {
 Thickness of butt straps { outer 1" No. and Description of Furnaces in each Boiler Three Corrugated, Suspension
 { inner 1 1/8" Tensile strength 60,000 lb Smallest outside diameter 3-9/16" & 4'-0 1/8" top of
 Material Steel OK Thickness of plates { crown 21 1/4" Description of longitudinal joint Welded.
 { bottom 32 {
 Length of plain part { top Corrugated Working pressure of furnace by Rules 214.
 { bottom None {
 Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 214.
 Plates in steam space: Material Steel OK Tensile strength 60,000 lb Thickness 1 1/4" Pitch of stays 16 3/8" x 18"
 How are stays secured Screws through heads 6 threads per inch Working pressure by Rules 238.
 Plates: Material { front Steel OK Tensile strength 58240 lb 67200 Thickness { 13 1/16" 13 1/16"
 { back Steel OK {
 Pitch of stay tubes in nests 8" x 8 1/4" Pitch across wide water spaces 13" approx Working pressure { front 259.
 { back 232. {
 Girders to combustion chamber tops: Material Steel OK Tensile strength 60,000 lb Depth and thickness of girder
 Centre 11" x 3 1/4" Double Length as per Rule 34" Distance apart 8" No. and pitch of stays
 Each Four - 7" dia Working pressure by Rules 312. Combustion chamber plates: Material OK Steel
 Tensile strength 58240 lb Thickness: Sides 11 1/16" Back 11 1/16" Top 11 1/16" Bottom 15 1/16"
 Pitch of stays to ditto: Sides 8" x 7" Back 7 1/4" x 7 1/4" Top 8" x 7" Are stays fitted with nuts or riveted over Nuts.
 Working pressure by Rules 290 Front plate at bottom: Material Steel OK Tensile strength 58240 lb
 Thickness 13 1/16" Lower back plate: Material Steel OK Tensile strength 58240 lb Thickness 13 1/16"
 Pitch of stays at wide water space 13" & 12" 2 3/8" up to 2 1/4" Are stays fitted with nuts or riveted over Nuts Double - 6 threads per inch
 Working Pressure 429. Main stays: Material Steel OK Tensile strength 8671 lb 8671 lb
 Diameter { At body of stay, 3 1/4" No. of threads per inch Six Area supported by each stay 294.75 sq in
 { Over threads 3 5/8" {
 Working pressure by Rules 349. Screw stays: Material Wrought Iron Tensile strength 6760 lb 6760 lb
 Diameter { At turned off part, 1 1/4" (1 1/8" ordinary) No. of threads per inch Twelve. Area supported by each stay 56.2 sq in
 { Over threads All headed & threaded {

Working pressure by Rules 242 Are the stays drilled at the outer ends Yes Margin stays: Diameter { At turned off part, 1 1/2" or Over threads 1 1/4"
 No. of threads per inch 12 Area supported by each stay 52 sq in approx Working pressure by Rules 349
 Tubes: Material Chrome Iron External diameter { Plain 3" dia Thickness { 9.849 No. of threads per inch 12
 Stay 3/8" no thread Thickness .25 inch
 Pitch of tubes 4 1/2" x 4" Working pressure by Rules 195 (Section 20) Manhole compensation: Size of opening in
 shell plate 12 x 16" Section of compensating ring None - flange No. of rivets and diameter of rivet holes ---
 Bottom heat 11 x 15 Depth of flange if manhole flanged 3 3/4" Steam Dome: Material ---
 Outer row rivet pitch at ends --- 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 --- 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 Foster Manufacturers of { Tubes Power Specialty Co. Danville N.Y.
 Steel castings Do
 Number of elements Three Material of tubes Steel (234) Internal diameter and thickness of tubes 1 1/2" dia @ 9.849
 Material of headers Steel Tensile strength --- Thickness --- Can the superheater be shut off or
 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 Yes
 Area of each safety valve --- Are the safety valves fitted with easing gear Yes Working pressure ---
 Rules --- Pressure to which the safety valves are adjusted 225 lbs? Hydraulic test pressure ---
 tubes 1000 lbs at this castings 630 lbs Nov 1918 and after assembly in place 315 lbs per sq in Are drain cocks or valves fitted
 to free the superheater from water where necessary Yes - relief

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes as far as can be ascertained
 The foregoing is a correct description, ---

Dates of Survey { During progress of work in shops - - ---
 while building { During erection on board vessel - - ---
 Are the approved plans of boiler and superheater forwarded herewith ---
 (If not state date of approval)
 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.)
The Boilers of the vessel have not been opened up for survey at this time. The information contained in this report has been obtained from the vessel & a copy of Boiler Plan (Ekin & Eddy Co) from which it is stated to be constructed is forwarded herewith & such information checked on paper as far as possible.
The Boilers, fittings & accessories as seen in the boiler appear in good & efficient condition & it is recommended that same should be recorded accordingly in the Register Book, subject to survey in accordance with the Rules & in conjunction with the Machinery being satisfactorily completed.
Photo stat copy of Boiler Plan (Ekin & Eddy Co) forwarded herewith

Survey Fee ... £ --- To be collected Expens. Oct. 22
 Travelling Expenses (if any) £ 1.00 When applied for, ---
 When received, ---

Committee's Minute ---
 Assigned Class Contemplated
 NEW YORK OCT 23 1940