

REPORT ON BOILERS.

No. 7988

Received at London Office

14 JUN 1944

Date of writing Report 18th May, 1944 When handed in at Local Office 18th May, 1944 Port of Baltimore, Maryland

No. in Survey held at Baltimore, Maryland

Date, First Survey January 12th

Last Survey March 20th 1944

2098 on the M. V. "COPIAPO"

(Number of Visits 8) Gross 7279
Tons Net 5155

Master - Built at Nakskov By whom built Nakskov Skibs A/S Yard No. - When built 1937 - 12

Engines made at Copenhagen By whom made Akt. Burmeister & Wain Engine No. - When made 1937

Boilers made at Detroit By whom made Detroit Ship Building Co. Boiler No. - When made 1910

Nominal Horse Power 1027 Owners U.S. ARMY TRANSPORT SERVICE Port belonging to -

MULTITUBULAR BOILERS - ~~MAIN, AUXILIARY, OR~~ DONKEY.

Manufacturers of Steel - (Letter for Record -)

Total Heating Surface of Boilers 3476 sq. ft. Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers One single ended Scotch Type Working Pressure 150 lbs.

Tested by hydraulic pressure to 225 lbs. Date of test 7 - 2 - 44 No. of Certificate - Can each boiler be worked separately -

Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler 2

Area of each set of valves per boiler {per Rule 26.33 as fitted 25.13 Pressure to which they are adjusted 150 lbs. Are they fitted with easing gear Yes

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 Not close Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 18" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 12' 8 3/4" Length 10' 10 3/4" Shell plates: Material Steel Tensile strength -

Thickness 1.35" Are the shell plates welded or flanged flanged Description of riveting: circ. seams {end Single Riv. lap inter. Double Riv. lap

long. seams double riveted butt Diameter of rivet holes in {circ. seams 1 1/2" Pitch of rivets {4 1/2" long. seams 1 1/2" 7 3/8"

Percentage of strength of circ. end seams {plate 55.4 rivets 32.6 Percentage of strength of circ. intermediate seam {plate 66.6 rivets 62.7

Percentage of strength of longitudinal joint {plate 79.6 rivets 88.3 combined 88.8 Working pressure of shell by Rules 200 lbs.

Thickness of butt straps {outer 1" inner 1" No. and Description of Furnaces in each Boiler Two Morison

Material - Tensile strength - Smallest outside diameter 45 1/4"

Length of plain part {top - Thickness of plates {crown 5/8" bottom 5/8" Description of longitudinal joint welded

Dimensions of stiffening rings on c.c. bottom 5"x3"x7/16" T x 45 Working pressure of furnace by Rules 201 lbs.

End plates in steam space: Material Steel Tensile strength - Thickness 1 1/8" Pitch of stays 15 3/4"

How are stays secured Screwed, nuts each side Working pressure by Rules 236 lbs.

Tube plates: Material {front Steel back Steel Tensile strength { Thickness {7/8" 3/4"

Mean pitch of stay tubes in nests 8 1/4" Pitch across wide water spaces 13 1/8" Working pressure {front 195.4 lbs. back 217.6 lbs.

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

at centre 8 1/2" x 1 1/2" Length as per Rule - Distance apart 7 7/8" No. and pitch of stays

in each 3 - 7 3/8" Working pressure by Rules 253.5 lbs. Combustion chamber plates: Material Steel

Tensile strength - Thickness: Sides 5/8" Back 5/8" Top 21/32" Bottom 5/8"

Pitch of stays to ditto: Sides 7 3/8" Back 7 3/8" Top 7 3/8" Are stays fitted with nuts or riveted over riveted over

Working pressure by Rules 165.9 Front plate at bottom: Material Steel Tensile strength -

Thickness 7/8" Lower back plate: Material Steel Tensile strength - Thickness 11/16"

Pitch of stays at wide water space 11 1/2" Are stays fitted with nuts or riveted over Nuts

Working Pressure 239.5 lbs. Main stays: Material Steel Tensile strength -

Diameter {At body of stay, 2 3/8" No. of threads per inch 6 Area supported by each stay 248 square inches

Working pressure by Rules 245 lbs. Screw stays: Material Steel Tensile strength -

Diameter {At turned off part, 1 1/2" No. of threads per inch 10 Area supported by each stay 54.39 sq. inches.

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Working pressure by Rules **235 lbs.** Are the stays drilled at the outer ends **Yes** Margin stays: Diameter { At turned off part, - 1 5/8" or Over threads. - 1 5/8" }
No. of threads per inch **10** Area supported by each stay **40.78 sq. ins.** Working pressure by Rules **445 lbs.**
Tubes: Material **Steel** External diameter { Plain **3"** Stay **3"** } Thickness { **.148** **5/16"** } No. of threads per inch **9**
Pitch of tubes **4 1/4" x 4 1/8"** Working pressure by Rules **190 lbs.** Manhole compensation: Size of opening in shell plate **11" x 15"** Section of compensating ring **1 3/32"** No. of rivets and diameter of rivet holes **16 - 1 1/16"**
Outer row rivet pitch at ends **6"** Depth of flange if manhole flanged **2 7/8"** Steam Dome: Material -
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 - Manufacturers of { Tubes - Steel forgings - Steel castings - }
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 - forgings and 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,

Manufacturer.

Dates of Survey { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith **Yes** (If not state date of approval.)
while building { During erection on board vessel - - } Total No. of visits **8**

Is this Boiler a duplicate of a previous case **Yes** If so, state Vessel's name and Report No. **M.V. "ACONCAGUA" (Balt. Rpt. 7973)**

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

This boiler was not built under the Special Survey of this Society, but has been removed from the S.S. "OCTORARA" 4329 gross tons of Erie, Pa. The boiler has been examined internally and externally with all lagging removed and has been placed in a satisfactory condition for a working pressure of 150 lbs. per square inch. The boiler has been retubed throughout on account of general wastage of tubes and additional twenty two stay tubes fitted, the furnaces and shell drilled for thickness and found good and the bottomaludge hole closed by and efficient riveted patch. The boiler has been fitted in the vessel in accordance with the Society's Rules, hydrostatically tested in place to 225 lbs. per square inch, examined under full steaming conditions and the oil burning arrangements, fire extinguishing appliances, boiler and installation found satisfactory. It is the opinion of the undersigned that this boiler is in a satisfactory condition to be classed with this Society with the notation N.D.B. built 1910 refitted 3,44 for a working pressure of 150 lbs. per square inch.

Alteration R. B. Col. 13:- D.B. 100 lbs. This boiler now destroyed in removal and the above DB fitted.

Survey Fee £ **\$200.00**

Travelling Expenses (if any) £ : - :

When applied for, **May 18,** 19 **44**

When received, 19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

NEW YORK MAY 24 1944

Assigned N.D.B. MADE '10 REFITTED '44 150 LBS PER SQ.
D.B.S. - 3, 44,



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