

# REPORT ON BOILERS.

Received at London Office - 6 FEB 1942

Date of writing Report 10 When handed in at Local Office 30/1/42 Port of NEWCASTLE-ON-TYNE

No. in Reg. Book. Survey held at Newcastle on Tyne Date, First Survey 7 Jan Last Survey 26/1/1942  
on the M.V. "SAN VENANCIO" (Number of Visits) Gross 8152 Tons Net 4801

Master Built at Newcastle (Hebburn) By whom built R.W. Hawthorn, Leslie Yard No. 636 When built 1942-  
Engines made at Newcastle (St Peter's) By whom made ditto Engine No. 3974 When made 1942-  
Boilers made at ditto By whom made ditto Boiler No. 3974 When made 1942-  
Nominal Horse Power 233. Owners Eagle Oil Coy. Port belonging to London

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

Manufacturers of Steel Colvilles & Co., Furnace Plates by The Steel Coy of Scotland. (Letter for Record S.)

Total Heating Surface of Boilers 3500 sq. ft. Is forced draught fitted Yes Coal or Oil fired Oil fired

No. and Description of Boilers One Single Ended. Working Pressure 180 lbs/sq. in.

Tested by hydraulic pressure to 320<sup>th</sup> Date of test 19/9/41 No. of Certificate 912. Can each boiler be worked separately Yes

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler Two 4" dia. spring loaded.

Area of each set of valves per boiler {per Rule 22.44 sq. ins. as fitted 25.12 Pressure to which they are adjusted 180<sup>th</sup> Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No main Boilers.

Smallest distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers under Blr.

Smallest distance between shell of boiler and tank top plating 3'-4 1/2" Boiler fitted on deck flat in ER. Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 16'-0 3/8" Length 12'-6" mean Shell plates: Material S. Tensile strength 28 to 32 tons

Thickness 1 5/16" Are the shell plates welded or flanged Neither. Description of riveting: circ. seams {end D.R. lap inter. none} Pitch of rivets {3.95" 9 3/8"}

long. seams T.R. Dbl butt strap Diameter of rivet holes in {circ. seams 1 3/8" long. seams} Percentage of strength of circ. end seams {plate 65.2 rivets 47.1} Percentage of strength of circ. intermediate seam {plate None rivets}

Percentage of strength of longitudinal joint {plate 85.3 rivets 93.0 combined 89.3} Working pressure of shell by Rules 180.6.

Thickness of butt straps {outer 1" inner 1 1/8" No. and Description of Furnaces in each Boiler 3 Morrison Corrugated

Material S. Tensile strength 26 to 30 tons Smallest outside diameter 4'-0 1/4"

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

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 189 lbs.

End plates in steam space: Material S. Tensile strength 26 to 30 tons Thickness 1 1/32" Pitch of stays 22" x 20 3/4" max.

How are stays secured Nuts inside & outside Working pressure by Rules 185 lbs.

Tube plates: Material {front S. back} Tensile strength {26 to 30 tons} Thickness {1 1/16"}

Mean pitch of stay tubes in nests 9 7/8" Pitch across wide water spaces 13 3/4" x 7 3/4" Working pressure {front 200 lbs back 243 lbs}

Girders to combustion chamber tops: Material S. Tensile strength 28 to 32 tons Depth and thickness of girder at centre 10 3/4" x 3 3/4" x two Length as per Rule 37 1/2" - 1/4" Distance apart 10 1/2" No. and pitch of stays in each 3 @ 8 3/4" Working pressure by Rules 182.5 lbs. Combustion chamber plates: Material S. Tensile strength 26 to 30 tons Thickness: Sides 4 5/64" Back 4 5/64" Top 4 5/64" Bottom 1" Are stays fitted with nuts or riveted over nuts on top stays and back marginal stays. Remainder riveted.

Pitch of stays to ditto: Sides 8 3/4" x 7" Back 8 1/4" x 7 1/16" Top 10 1/2" x 8 3/4" Working pressure by Rules 182 lbs min. Front plate at bottom: Material S. Tensile strength 26 to 30 tons Thickness 1" Lower back plate: Material S. Tensile strength 26 to 30 tons Thickness 27/32"

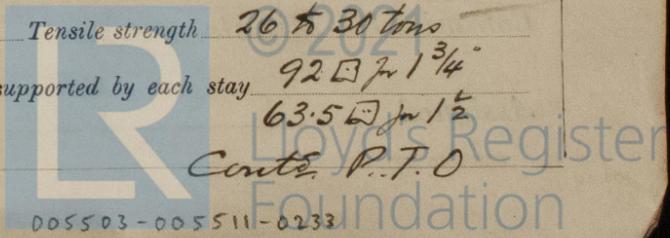
Pitch of stays at wide water space 15" x 8 1/4" Are stays fitted with nuts or riveted over with nuts.

Working Pressure 198 lbs. Main stays: Material S. Tensile strength 28 to 32 tons

Diameter {At body of stay, or Over threads} 3 1/4" No. of threads per inch 6 Area supported by each stay 450 sq. ins.

Working pressure by Rules 206 lbs. Screw stays: Material S. Tensile strength 26 to 30 tons

Diameter {At turned off part, or Over threads} 1 3/4" girder stays 1 1/2" back & side " No. of threads per inch 9. Area supported by each stay 92 sq. in 1 3/4" 63.5 sq. in 1 1/2"



Working pressure by Rules 197th. Are the stays drilled at the outer ends No Margin stays: Diameter <sup>At turned off part.</sup> 1 3/4"  
 No. of threads per inch 9. Area supported by each stay 93.5 sq ins Working pressure by Rules 194th.  
 Tubes: Material Lap welded W.I. External diameter <sup>Plain</sup> 2 3/4" Thickness <sup>Stay</sup> 3/8" x 5/16" No. of threads per inch 9.  
 Pitch of tubes 4" x 3 7/8" Working pressure by Rules 214th. Manhole compensation: Size of opening in  
 shell plate 21" x 17" Section of compensating ring 25 x 1 5/16" No. of rivets and diameter of rivet holes 36 of 1 7/16" dia  
 Outer row rivet pitch at ends 10" Depth of flange if manhole flanged 4 1/2" Steam Dome: Material None  
 Tensile strength \_\_\_\_\_ Thickness of shell \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_  
 Diameter of rivet holes \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Percentage of strength of joint <sup>Plate</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 None Manufacturers of Tubes  
 Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Steel forgings  
 Material of headers \_\_\_\_\_ Tensile strength \_\_\_\_\_ Steel castings  
 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 casing 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 Yes.  
 The foregoing is a correct description, R. & W. HAMILTON, L. LESLIE & CO. LIMITED Manufacturer.

Dates of Survey <sup>During progress of work in shops - - -</sup> See Machinery Report Are the approved plans of boiler and superheater forwarded herewith 21/6/40  
<sup>while building</sup> <sup>During erection on board vessel - - -</sup> See Machinery Report (If not state date of approval.)  
 Total No. of visits \_\_\_\_\_

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. DIPLODON Yard no 632 (Eng 3969) H Leslie's  
Proc. Rpt no. 99860

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
This Donkey Boiler has been constructed under special survey in accordance with the approved plans and the Society's Rules, and the materials and workmanship are good. The Boiler has been efficiently fitted on board and tested under steam under working conditions.  
See also Machy Rpt H.B.

Survey Fee ... .. £ See Machy Rpt When applied for, 19  
 Travelling Expenses (if any) £ H.B. When received, 19

A. Watt.  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 13 FEB 1942

Assigned See Proc. Rpt. 100147



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