

# REPORT ON BOILERS.

No. 14345

Received at London Office 11 APR 1947

Date of writing Report 10 When handed in at Local Office 9/4/10<sup>47</sup> Port of BELFAST.

No. in Reg. Book. Survey held at BELFAST. Date, First Survey Last Survey 19

on the M.V. LINGULA (Number of Visits ) Gross 6445 Tons Net 3618.

Master Built at BELFAST By whom built HARLAND & WOLFF LTD. Yard No. 1347 When built 1947.

Engines made at BELFAST By whom made HARLAND & WOLFF LTD. Engine No. 1347 When made 1947.

Boilers made at BELFAST By whom made HARLAND & WOLFF LTD. Boiler No. 1360 When made 1947.

Nominal Horse Power 536. Owners. ANGLO SAXON PETROLEUM CO. Port belonging to LONDON.

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

Manufacturers of Steel COLVILLES. (Letter for Record S.)

Total Heating Surface of Boilers 3540 Is forced draught fitted YES. Coal or Oil fired OIL OR EXHAUST GAS.

No. and Description of Boilers ONE CYLINDRICAL, SMOKE TUBE TYPE Working Pressure 180 lbs./sq. in.

Tested by hydraulic pressure to 320 lbs./sq. in. Date of test 15/10/46 No. of Certificate 1360 Can each boiler be worked separately -

Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler DOUBLE 3" DIA. M.P. HIGH LIFT.

Area of each set of valves per boiler {per Rule 11.35 Sq. ins. as fitted 14.15 Sq. ins. Pressure to which they are adjusted 185 lbs./sq. in. 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 AMPLE. Is oil fuel carried in the double bottom under boilers TWEEN PKs.

Smallest distance between shell of boiler and tank top plating - Is the bottom of the boiler insulated YES.

Largest internal dia. of boilers 16'-0 13/32" Length 12'-6" Shell plates: Material STEEL Tensile strength 29/33 T/D

Thickness 1 19/64" Are the shell plates welded or flanged NO. Description of riveting: circ. seams {end D.R.L. inter. -

Long. seams T.R.D.B.S. Diameter of rivet holes in {circ. seams 1 13/32" long. seams 1 13/32" Pitch of rivets {3-27" 9 1/16"

Percentage of strength of circ. end seams {plate 57.2% rivets 58% Percentage of strength of circ. intermediate seam {plate rivets

Percentage of strength of longitudinal joint {plate 84.5% rivets 98% combined 88.5% Working pressure of shell by Rules 183 lbs./sq. in.

Thickness of butt straps {outer 1" inner 1 1/8" No. and Description of Furnaces in each Boiler 3 - CORRUGATED MORISON SECTION.

Material STEEL. Tensile strength 26/30 T/D. Smallest outside diameter 3'-11 1/4".

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

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules 193 lbs./sq. in.

End plates in steam space: Material STEEL Tensile strength 26/30 T/D Thickness 1 5/32" Pitch of stays VARIOUS.

How are stays secured NUTS & WASHERS IN & OUT. Working pressure by Rules AS APPROVED.

Tube plates: Material {front STEEL back STEEL Tensile strength {26/30 T/D Thickness {7/8" 27/32"

Lean pitch of stay tubes in nests 8.84" Pitch across wide water spaces 1'-2" Working pressure {front back AS APPROVED.

Girders to combustion chamber tops: Material STEEL Tensile strength 28/32 T/D Depth and thickness of girder

at centre 2 @ 10 1/4" x 7/8" Length as per Rule 3'-1 2/32" Distance apart 10 1/2" No. and pitch of stays

in each 3 @ 8 7/8" Working pressure by Rules AS APPROVED. Combustion chamber plates: Material STEEL.

Tensile strength 26/30 T/D Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 13/16" MARGINAL - NUTTED

Pitch of stays to ditto: Sides 8 7/8" x 7 1/4" Back 8 1/4" x 7 3/4" - C. Top - Are stays fitted with nuts or riveted over OTHERS RIVETED.

Working pressure by Rules AS APPROVED. Front plate at bottom: Material STEEL Tensile strength 26/30 T/D.

Thickness 7/8" Lower back plate: Material STEEL Tensile strength 26/30 Thickness 7/8".

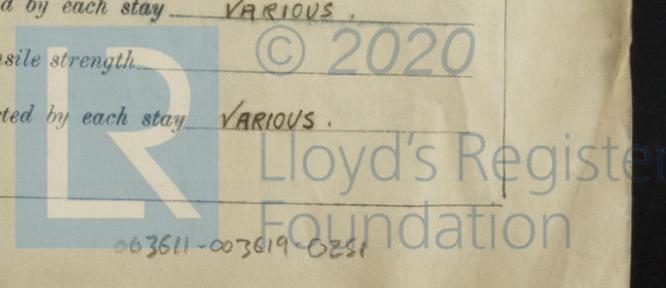
Pitch of stays at wide water space 1'-1" Are stays fitted with nuts or riveted over NUTS.

Working Pressure AS APPROVED. Main stays: Material STEEL Tensile strength 28/32 T/D

Diameter {At body of stay, 3" No. of threads per inch 6 Area supported by each stay VARIOUS.

Working pressure by Rules AS APPROVED. Screw stays: Material Tensile strength

Diameter {At turned off part, 1 1/2", 1 3/4", 2" No. of threads per inch 9 Area supported by each stay VARIOUS.



Working pressure by Rules **AS APPROVED**. Are the stays drilled at the outer ends **NO**. Margin stays: Diameter <sup>At turned off part,</sup> <sub>or</sub> <sup>Over threads</sup>  $1\frac{3}{4}$ "

No. of threads per inch **9** Area supported by each stay **-** Working pressure by Rules **AS APPROVED**.

Tubes: Material **STEEL** External diameter <sup>Plain</sup>  $2\frac{3}{4}$ " <sup>Stay</sup>  $2\frac{3}{4}$ " Thickness <sup>9-L.S.G.</sup>  $\frac{1}{4}$ ",  $\frac{5}{16}$ ",  $\frac{1}{2}$ " No. of threads per inch **9**

Pitch of tubes  $4" \times 3\frac{7}{8}"$  Working pressure by Rules **AS APPROVED** Manhole compensation: Size of opening **-**

shell plate  $16\frac{1}{2}" \times 12\frac{1}{2}"$  Section of compensating ring  $20" \times 1\frac{1}{8}"$  No. of rivets and diameter of rivet holes **28 @  $1\frac{15}{32}$ "**

Outer row rivet pitch at ends  $9\frac{3}{4}"$  Depth of flange if manhole flanged  $3\frac{3}{8}"$  (FROM END) 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> <sub>Rivets</sub>

Internal diameter Working pressure by Rules Thickness of crown No. and diameter

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> <sub>Steel castings</sub>

Number of elements Material of tubes Internal diameter and thickness of tubes

Material of headers Tensile strength Thickness Can the superheater be shut off

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

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 **YES**.

For **HARLAND & WOLFF, LIMITED.**  
The foregoing is a correct description,  
*A. M. Hambro* Manufacturer

Dates of Survey <sup>During progress of work in shops - - -</sup> <sub>while building</sub> <sup>During erection on board vessel - - -</sup>

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 **YES**. If so, state Vessel's name and Report No. **M.V. LEPTON** **Bel. Rpt. No. 14332**

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) *This boiler has been built under Special Survey in accordance with the Rules and approved plan. The materials and workmanship are good. The boiler has been efficiently installed on board the vessel, the safety valves adjusted under steam for a working pressure of 180 lbs./sq. and a satisfactory accumulation test held. The oil burning installation, remote controls and steam fire extinguishing system have been tried and found satisfactory.*

Survey Fee *See machinery report.* : : When applied for, 19

Travelling Expenses (if any) £ : : When received, 19

*Edwin Grievies for self and J. M. Afee*  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **FIN. 9 MAY 1947**

Assigned *See F.E. mch. rpt.*

