

REPORT ON BOILERS.

No. 11493

Received at London Office 12 JAN 1948

Date of writing Report 10 When handed in at Local Office 19 Port of BELFAST
No. in Reg. Book. Survey held at BELFAST Date, First Survey Vessel included in F.E. survey. Last Survey 19
on the M.V. "LOTORIUM" (Number of Visits) Gross 6490 Tons Net 3606
Master - Built at BELFAST By whom built HARLAND & WOLFF LTD. Yard No. 1370 When built 1947
Engines made at BELFAST By whom made HARLAND & WOLFF LTD. Engine No. 1370 When made 1947
Boilers made at BELFAST By whom made HARLAND & WOLFF LTD. Boiler No. 1370 When made 1947
Nominal Horse Power 536 Owners ANGLO-SAXON PETROLEUM CO. LTD. Port belonging to LONDON

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel COLVILLES (Letter for Record 5
Total Heating Surface of Boilers 3540 Is forced draught fitted YES Coal or Oil fired OR EXH. 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 16.10.47 No. of Certificate 1371 Can each boiler be worked separately -
Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler DOUBLE, 3" DIA. IMPROVED HIGH LIFT.
Area of each set of valves per boiler per Rule 11.35 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 DECK.
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/□
Thickness 1 19/64" Are the shell plates welded or flanged NO Description of riveting: circ. seams end D.R.L. inter. -
No. long. seams T.R.D.B.S. Diameter of rivet holes in circ. seams 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% Working pressure of shell by Rules 183 lbs/sq. in. combined 88.5%
Thickness of butt straps outer 1" inner 1 1/8" No. and Description of Furnaces in each Boiler 3 - CORRUGATED MORRISON SECTION.
Material STEEL Tensile strength 26/30 T/□" Smallest outside diameter 3' - 11 1/2"
Length of plain part top - bottom - Thickness of plates crown 5/8" bottom 5/8" Description of longitudinal joint FORGE WELD.
Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules AS APPROVED.
End plates in steam space: Material STEEL Tensile strength 26/30 T/□" Thickness 1 5/32" Pitch of stays VARIOUS.
How are stays secured NUTS & WASHERS IN & OUT Working pressure by Rules AS APPROVED.
End plates: Material front STEEL back STEEL Tensile strength 26/30 T/□" Thickness 7/8" 27/32"
Pitch of stay tubes in nests 8.84" Pitch across wide water spaces 1' - 2" Working pressure front AS APPROVED. back -
Ends to combustion chamber tops: Material STEEL Tensile strength 28/32 T/□" Depth and thickness of girder
Centre 2 @ 10 1/4" x 7/8" Length as per Rule 3' - 1 2 1/2" Distance apart 10 1/2" No. and pitch of stays
Each 3 @ 8 7/8" Working pressure by Rules AS APPROVED Combustion chamber plates: Material STEEL
Tensile strength 26/30 T/□" Thickness: Sides 3/4" 8" x 8" WINGS 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 8 7/8" x 10 1/2" 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/□"
Thickness 7/8" Lower back plate: Material STEEL Tensile strength 26/30 T/□" 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/□"
Pitch of stays { At body of stay, } 3" No. of threads per inch 6 Area supported by each stay VARIOUS.
{ Over threads } Working pressure by Rules AS APPROVED Screw stays: Material STEEL Tensile strength 26/30 T/□"
Pitch of stays { At turned off part, } 1 1/2", 1 3/4", 2" No. of threads per inch 9 Area supported by each stay VARIOUS.
{ Over threads }

Working pressure by Rules AS APPROVED Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 3/4" or Over threads
No. of threads per inch 9 Area supported by each stay - Working pressure by Rules AS APPROVED.
Tubes: Material STEEL External diameter { Plain 2 3/4" Stay 2 3/4" Thickness { 9 L.S.G. 1/4", 5/16", 1/2" No. of threads per inch 9
Pitch of tubes 4" x 3 7/8" Working pressure by Rules AS APPROVED Manhole compensation: Size of opening in shell plate 16 1/2" x 12 1/2" Section of compensating ring 20" x 1 1/8" No. of rivets and diameter of rivet holes 28 @ 1 5/32"

Outer row rivet pitch at ends 9 3/4" Depth of flange if manhole flanged 3 3/8" (FRONT 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 { 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 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.

For HARBOR & SHIP REPAIRS, LIMITED

The foregoing is a correct description,

Manufacturer.

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 YES If so, state Vessel's name and Report No. M.Y. LINGULA Belfast Report No 14345.

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.in 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, 10
Travelling Expenses (if any) £ : : When received, 10

R. Archibald & E. Grievies.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute PRI. 20 FEB 1948

Assigned See F.E. mch. rpt.



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