

REPORT ON BOILERS.

No. 14 332

Received at London Office

28 FEB 1947

Date of writing Report 35/2/1947 When handed in at Local Office 27/2/1947 Port of BELFAST.
 Visits included in F.E. Machinery
 No. in Survey held at BELFAST. Date, First Survey Last Survey 19
 Reg. Book.
 on the MY LEPTON (Number of Visits)
 Gross 6446
 Net 3619
 Master ✓ Built at BELFAST By whom built HARLAND & WOLFF LTD. Yard No. 1346 When built 1947
 Engines made at BELFAST. By whom made HARLAND & WOLFF LTD. Engine No. 1346 When made 1947.
 Boilers made at BELFAST. By whom made HARLAND & WOLFF LTD. Boiler No. 1359 When made 1947.
 NHP=377
 Nominal Horse Power 536 MN 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 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 15/10/46 No. of Certificate 1359 Can each boiler be worked separately -
 Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler DOUBLE. 3" DIA. MP HIGH LIFT.
 Area of each set of valves per boiler {per Rule 11.35 sq.in. as fitted 14.15 sq.in.} 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. BOILER ON
 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. - }
 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 84.5% rivets 98% }
 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/□" ✓ Smallest outside diameter 3' - 11 1/4" ✓
 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 193 lbs/sq.in.
 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 AND OUT. ✓ Working pressure by Rules AS APPROVED.
 Tube plates: Material {front STEEL back STEEL} Tensile strength { 26/30 T/□" } Thickness { 7/8" 27/32" }
 Mean pitch of stay tubes in nests 8.84 Pitch across wide water spaces 1' - 2" ✓ Working pressure {front AS APPROVED. back AS APPROVED. }
 Girders to combustion chamber tops: Material STEEL ✓ Tensile strength 28/32 T/□" ✓ Depth and thickness of girder
 at centre 2 @ 10 1/4" x 7/8" ✓ Length as per Rule 3' - 1 21/32" ✓ 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/□" ✓ Thickness: Sides 3/4" ✓ Back 3/4" ✓ Top 3/4" ✓ Bottom 13/16" ✓
 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 11" 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 ✓ 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/□".
 Diameter {At body of stay, 3" Body. Over threads 3 1/2 3 3/8 threads } No. of threads per inch 6 ✓ Area supported by each stay VARIOUS.
 Working pressure by Rules AS APPROVED. Screw stays: Material STEEL ✓ Tensile strength 26/30 T/□".
 Diameter {At turned off part, 1 1/2", 1 3/4", 2" Over threads } 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 { 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 15/32"

Outer row rivet pitch at ends 9 3/4" Depth of flange if manhole flanged 3 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 { 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 YES ✓

The foregoing is a correct description, Manufacturer: [Signature]

Dates of Survey { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

while building { During erection on board vessel - - - } 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. LINGA BEL RPT. NO. 14254.

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 tested held. The oil burning installation, remote controls and steam fire extinguishing system have been tried and found satisfactory.

Survey Fee ... £ See machy report. When applied for, 19

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

Edwin Grievs for self and J. McAfee. Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute Fri. 21 MAR 1917

Assigned Su F.E. machy. rpt.