

REPORT ON BOILERS.

No. 14187

Received at London Office... 29 JUN 1946

Date of writing Report 26TH JUNE 1946 When handed in at Local Office 26TH JUNE 1946 Port of BELFAST
 No. in Reg. Book. 356 LB Survey held at BELFAST Date, First Survey - Last Survey - 19-
 on the M.V. "LYRIA" (Number of Visits -) Gross 6452 Tons Net 3603
 Master - Built at BELFAST By whom built HARLAND & WOLFF, LD Yard No. 1308 When built 1946
 Engines made at BELFAST By whom made HARLAND & WOLFF, LD Engine No. 1308 When made 1946
 Boiler made at BELFAST By whom made HARLAND & WOLFF, LD Boiler No. 1308 When made 1946
 Nominal Horse Power 377 Owners ANGLO-SAXON PETROLEUM CO. LD. Port belonging to LONDON

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel COLVILLES, LD. (Letter for Record S)
 Total Heating Surface of Boilers 3540 SQ. FT. 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 LB/0"
 Tested by hydraulic pressure to 320 LB/0" Date of test 25/1/46 No. of Certificate 1289 Can each boiler be worked separately -
 Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler 2-3" IMP. HIGH LIFT
 Area of each set of valves per boiler per Rule 11.35 Pressure to which they are adjusted 185 LB/0" 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 BOILER ON TWEEN DK.
 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/0"
 Thickness 1 19/64" Are the shell plates welded or flanged NO Description of riveting: circ. seams DR.L.
 long. seams T.R.D.B.S. Diameter of rivet holes in 1 13/32" Pitch of rivets 3.27"
 Percentage of strength of circ. end seams plate 57.2% Percentage of strength of circ. intermediate seam plate =
 rivets 58% Working pressure of shell by Rules 183 LB/0"
 Percentage of strength of longitudinal joint plate 84.5%
 rivets 98%
 combined 88.5%
 Thickness of butt straps 1 1/8" No. and Description of Furnaces in each Boiler 3 CORRUGATED - MORISON SECT.
 Material STEEL Tensile strength 26/30 T/0" Smallest outside diameter 3'-11 1/4"
 Length of plain part - Thickness of plates 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 LB/0"
 and plates in steam space: Material STEEL Tensile strength 26/30 T/0" Thickness 1 5/32" Pitch of stays VARIOUS
 How are stays secured NUTS & WASHERS IN & OUT Working pressure by Rules AS APP.
 Tube plates: Material STEEL Tensile strength 26/30 T/0" Thickness 7/8"
 back STEEL Tensile strength 26/30 T/0" Working pressure AS APPROVED
 Can pitch of stay tubes in nests 8.84" Pitch across wide water spaces 1'-2"
 Orders to combustion chamber tops: Material STEEL Tensile strength 28/32 T/0" Depth and thickness of girder 11" C.C.
 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 11" C.C.
 each 3 @ 8 7/8" Working pressure by Rules AS APPROVED Combustion chamber plates: Material STEEL
 Tensile strength 26/30 T/0" 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" Top 8 7/8" x 10 1/2" Are stays fitted with nuts or riveted over MARGINAL-NUTTED OTHERS-RIVETED
 Working pressure by Rules AS APPROVED Front plate at bottom: Material STEEL Tensile strength 26/30 T/0"
 Thickness 7/8" Lower back plate: Material STEEL Tensile strength 26/30 T/0" 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/0"
 diameter 3" 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/0"
 diameter 1 1/2", 1 3/4", 2" No. of threads per inch 9 Area supported by each stay VARIOUS

Lloyd's Register
Foundation

011047-011056-0036

Working pressure by Rules As App. Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part. 1 3/4" or Over threads. 1 3/4" No. of threads per inch 9 ✓ Area supported by each stay - Working pressure by Rules As App. 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 App. Manhole compensation: Size of opening 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 1/2" ✓ 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 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 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 - forgings and castings - and after assembly in place - Are drain cocks 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, W. H. K. H. and W. L. F. V. M. H. L.

Dates { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval) 2/6/45 Secret while building { During erection on board vessel - - } Total No. of visits -

Is this Boiler a duplicate of a previous case No ✓ If so, state Vessel's name and Report No. -

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 lb/sq" and a satisfactory accumulation test held.
The oil fuel burning installation, extended spindle controls and steam fire extinguishing system have been tried and found satisfactory

Survey Fee See Machy. Rpt. : : When applied for 19 :
Travelling Expenses (if any) £ : : When received 19 :
John W. G. Sec
Engineer Surveyor to Lloyd's Register of Shipping
Committee's Minute FRI. 26 JUL 1945
Assigned See F.E. machy. rph