

REPORT ON BOILERS.

No. 105153

Received at London Office. 27 MAR 1948

Date of writing Report 22nd Feb 1948 When handed in at Local Office 22 MAR 1948 Port of NEWCASTLE-ON-TYNENo. in Survey held at Wallsend Date, First Survey 29th OCTOBER 1946 Last Survey 27th FEBRUARY 1948

Reg. Book. on the M/V. LEMBULUS. (Number of Visits... 88) Gross 6502.57 Tons Net 3593.62

Master Built at Wallsend By whom built Swan, Hunter & Wigham Richardson Ltd Yard No. 1755 When built 1948-2 mo.

Engines made at Wallsend By whom made Wallsend Slipway & Eng'g Co. Ltd. Engine No. 1001. When made 1948.

Boilers made at Wallsend. By whom made ditto. Boiler No. 1001. When made 1948.

Nominal Horse Power 191. Owners Anglo-Saxon Petroleum Co Ltd Port belonging to LONDON.

MULTITUBULAR BOILERS ~~STEAM, AUXILIARY, OR~~ DONKEY.

Manufacturers of Steel Colvilles Ltd, Glasgow. (Letter for Record S.)

Total Heating Surface of Boilers 2868 sq ft. Is forced draught fitted Yes. Coal or Oil fired oil fired. or EXHAUST GASES.

No. and Description of Boilers ONE Single Ended Working Pressure 180 LBS/SQ IN.

Tested by hydraulic pressure to 320 LBS/SQ IN. Date of test 29-5-47 No. of Certificate N° 1255. Can each boiler be worked separately Yes.

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler Two of 2 1/2" dia Cockburns Imp'd High Lift.

Area of each set of valves per boiler per Rule 18.5 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 No Main Boilers.

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

Smallest distance between shell of boiler and tank top plating The Boiler is on Tween Deck Flat above main engine. Is the bottom of the boiler insulated Yes.

Largest internal dia. of boilers 16'-0 7/16" Length 12'-6" mean Shell plates: Material M. Stl Tensile strength 29 1/2 x 33 tons

Thickness 1 9/32" Are the shell plates welded or flanged No Description of riveting: circ. seams end D.R. overlap inter. NIL

Long. seams T.R. Dble butt straps Diameter of rivet holes in circ. seams 1 5/16" Pitch of rivets 3.9" long. seams 1 5/16" 9"

Percentage of strength of circ. end seams plate 66 rivets 43 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 85.4 rivets 88.0 Working pressure of shell by Rules 183 LBS/SQ IN.

Thickness of butt straps outer 3 1/32" inner 1 3/32" No. and Description of Furnaces in each Boiler 3 C.f. (Doughton Section)

Material M. Stl Tensile strength 26 1/2 x 30 tons Smallest outside diameter 4'-1 1/2"

Length of plain part top Thickness of plates crown 5/8" Description of longitudinal joint Fire welded. bottom

Dimensions of stiffening rings on furnace or c.c. bottom Nil Working pressure of furnace by Rules 184 LBS.

End plates in steam space: Material M. Stl Tensile strength 26 1/2 x 30 tons Thickness 1 13/32" Pitch of stays 22 1/2 x 22"

How are stays secured Nutted inside & outside Working pressure by Rules 187 LBS

Tube plates: Material front M. Stl Tensile strength 26 1/2 x 30 tons Thickness front 1 Back 13/16"

Mean pitch of stay tubes in nests 11 5/8" x 8 1/4" Pitch across wide water spaces 13 1/2" Working pressure front 210 LBS back 192 LBS

Girders to combustion chamber tops: Material M. Stl Tensile strength 29 1/2 x 33 tons Depth and thickness of girder

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

in each 3 at 9 5/8" Working pressure by Rules 189 LBS Combustion chamber plates: Material M. Stl

Tensile strength 26 1/2 x 30 tons Thickness: Sides 13/16 Back 13/16 Top 13/16 Bottom 13/16

Pitch of stays to ditto: Sides 9 5/8" x 9" Back 9 x 8 5/8" Top 10" x 9 5/8" Are stays fitted with nuts or riveted over NUTS ON BACK MARGINAL AND ON GIRDERS REMAINDER - RIVETED OVER.

Working pressure by Rules BACKS 192 LBS SIDES 190 LBS TORS 256 LBS Front plate at bottom: Material M. Stl Tensile strength 26 1/2 x 30 tons

Thickness 1" Lower back plate: Material M. Stl Tensile strength 26 1/2 x 30 tons Thickness 15/16"

Pitch of stays at wide water space 14" x 9" Are stays fitted with nuts or riveted over marginal stays with nuts Remainder are RIVETED OVER.

Working pressure 236 LBS Main stays: Material M. Stl Tensile strength 28 1/2 x 32 tons

Diameter body of stay 3 1/2" No. of threads per inch 6 Area supported by each stay 4.95 sq in

Over threads 3 1/2" MIN. Working pressure by Rules Screw stays: Material M. Stl Tensile strength 26 1/2 x 30 tons

Diameter turned off part 1 5/8" (+ 1/4" OCC. 1 3/4") No. of threads per inch 9 Area supported by each stay 9' x 9 5/8" (9 5/8" x 10")

Over threads Contd. P.T.O.

DONKEY BOILER OF M/V. LEBBULUS.

Feb 1948.

Working pressure by Rules 184 lb. Are the stays drilled at the outer ends No Margin stays: Diameter 1 3/4"
 No. of threads per inch 9. Area supported by each stay 1 1/8 x 9" Working pressure by Rules 181 lb
 Tubes: Material Samuel M. S.H. External diameter 2 1/2" Thickness 5/16" No. of threads per inch 9.
 Pitch of tubes 4 1/8" x 3 7/8" Working pressure by Rules 180.4 lb Manhole compensation: Size of opening in
 shell plate 20" x 16" Section of compensating ring 18" x 1 9/32" No. of rivets and diameter of rivet holes 44 of 15/16 dia
 Outer row rivet pitch at ends 9" Depth of flange if manhole flanged 3 9/32" Steam Dome: Material Nik.
 Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____
 Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint _____
 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 Nik Manufacturers of _____
 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 on
 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,
 FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED
 J. B. Keck DIRECTOR

Dates of Survey while building { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith 18-4-46
 { During erection on board vessel - - } (If not state date of approval.) 19-12-46
 PLEASE SEE MACHINERY REPORT Total No. of visits _____

Is this Boiler a duplicate of a previous case No. 7-7-1007 If so, state Vessel's name and Report No. ✓

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, tested under steam under working conditions and found satisfactory.
See also machy Rpt 46

Survey Fee ... £ 28: 13: - When applied for 23 MAR 1948
 Travelling Expenses (if any) £ See Rpt. 46 When received _____
 A. Webb
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 30 APR 1948
 Assigned See F.E. machy. rpt.
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