

pt 5a.
2 JAN 1944
IN D.O.

REPORT ON BOILERS.

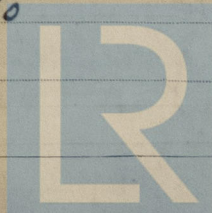
17674
No. 14542

Received at London Office 10 JAN 1944

Date of writing Report 5th Jan. 1944 When handed in at Local Office 8th Jan. 1944 Port of Middlesbrough
No. in Survey held at 9th Stockton-on-Tees Date, First Survey 8th July Last Survey 20th Dec. 1943.
on the 9th S/S "EMPIRE MILNER" (Number of Visits 16) Gross 8135 Tons Net 4604
Built at Haverton Hill-on-Tees By whom built Furness Shipbuilding Co Ltd Yard No. 358 When built 1944-6
Engines made at West Hartlepool By whom made Richardson Westgarth Engine No. 2742 When made 1944
Boilers made at Stockton-on-Tees By whom made Stockton C. Eng. & Riley B Boiler No. 6821 When made 1943.
Nominal Horse Power Owners Ministry of War Transport Port belonging to Middlesbrough.

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Company of Scotland Ltd. (Letter for Record S)
Total Heating Surface of Boilers 2080 sq ft Is forced draught fitted Yes Coal or Oil fired
No. and Description of Boilers 1 S.E. Marine Working Pressure 180 lb/sq in
Tested by hydraulic pressure to 320 lb/sq in Date of test 20/12/43 No. of Certificate 7103 Can each boiler be worked separately Yes
Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2 1/2" Doble Spring High Lift.
Area of each set of valves per boiler (per Rule 6.67 for 142 Pressure to which they are adjusted 185 lb Are they fitted with easing gear Yes
(as fitted 7.95)
In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No.
Smallest distance between boilers or uptakes and bunkers or woodwork 3'-6" Is oil fuel carried in the double bottom under boilers Yes
Smallest distance between shell of boiler and tank top plating 18" Is the bottom of the boiler insulated Yes
Largest internal dia. of boilers 13'-3 13/16" Length 11'-6" Shell plates: Material Steel Tensile strength 29-38.
Thickness 13/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams end D.R.
inter. 3.59"
Long. seams TR. D.B.S. Diameter of rivet holes in circ. seams 13/16" Pitch of rivets 8 3/16"
long. seams 13/16"
Percentage of strength of circ. end seams (plate 66.9 Percentage of strength of circ. intermediate seam (plate
(rivets 44.7 rivets
plate 85.5
Percentage of strength of longitudinal joint (rivets 91.85
(combined 87.36
Thickness of butt straps (outer 7/8 No. and Description of Furnaces in each Boiler 3 Depth Corrugated
(inner 1" Tensile strength 26-30 Smallest outside diameter 3'-1 1/4"
Material Steel Thickness of plates (crown 1/2" Description of longitudinal joint Welded.
(bottom
Dimensions of stiffening rings on furnace or c.c. bottom
End plates in steam space: Material Steel Tensile strength 26-30 Thickness 15/32" Pitch of stays 19" x 17 1/2"
How are stays secured Clear hole in end plates, with outside sealing weld & double nuts & washers.
Tube plates: Material (front Steel Tensile strength 26-30 Thickness 13/16"
(back 1/16"
Clean pitch of stay tubes in nests 9 3/8" Pitch across wide water spaces 13 1/2"
Girders to combustion chamber tops: Material Steel Tensile strength 28-32 Depth and thickness of girder
centre 8 3/8" - 2 @ 3/16" Length as per Rule 2'-8" Distance apart 10" No. and pitch of stays
each 2-10"
Combustion chamber plates: Material Steel
Tensile strength 26-30 Thickness: Sides 2 1/32" Back 1/16" Top 13/32" Bottom 2 1/32"
Pitch of stays to ditto: Sides 10" x 8" Back 10 1/2" x 7 1/2" Top 10" x 10" Are stays fitted with nuts or riveted over margin stays. Nuts each end
other "Nuts in c.c.
Front plate at bottom: Material Steel Tensile strength 26-30
Thickness 13/16" Lower back plate: Material Steel Tensile strength 26-30 Thickness 2 1/32"
Pitch of stays at wide water space 15" Are stays fitted with nuts or riveted over Nuts.
Main stays: Material Steel Tensile strength 28-32
Diameter (At body of stay, or 27/8" No. of threads per inch 6
Over threads
New stays: Material Steel Tensile strength 26-30
Diameter (At turned off part, or 1 3/4" No. of threads per inch 9
Over threads



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Are the stays drilled at the outer ends ho ✓ Margin stays: Diameter { At turned off part, 1 7/8" or Over threads 1 7/8" ✓
No. of threads per inch 9 ✓
Tubes: Material Seamless Steel External diameter { Plain 2 1/2" ✓ Stay 2 1/2" ✓ Thickness { 9/16" ✓ 3/8" ✓ 5/16" ✓ No. of threads per inch 9 ✓
Pitch of tubes 3 1/4" x 3 1/4" ✓ Manhole compensation: Size of opening in shell plate 20 1/2" x 16 1/2" Section of compensating ring 6 3/4" x 1 1/8" ✓ No. of rivets and diameter of rivet holes 36 - 1 1/16" ✓
Outer row rivet pitch at ends 8 3/16" Depth of flange if manhole flanged ✓ ✓ Steam Dome: Material Iron ✓
Tensile strength Thickness of shell Description of longitudinal joint
Diameter of rivet holes 8/32 Pitch of rivets 2 1/2" ✓ Percentage of strength of joint { Plate Rivets
Internal diameter Thickness of crown No. and diameter of stays
Inner radius of crown
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
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

For and on behalf of The foregoing is a correct description, Manufacturer.
Director ho 4/1/44
Dates of Survey { During progress of work in shops - - - Nov. 5, 9, 11, 19, Dec. 1, 9, 14, 20, Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
while building { During erection on board vessel - - - 16 Total No. of visits 16

Is this Boiler a duplicate of a previous case Yes ✓ If so, state Vessel's name and Report No. 17562 Middlesbrough

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
This boiler has been constructed under special survey & in accordance with the Rule Requirements & approved plan.
The materials & workmanship are good & on completion the boiler was hydraulically tested to 320 lbs psi & found satisfactory.
This boiler is being forwarded to the Furness Shipbuilding Co. Ltd. - Haverton Hill for Richardson Westgarth & Co. Ltd. to 2742
This boiler has now been securely fitted on board & examined under working conditions & found satisfactory.
The S.V.'s adjusted under steam to 185 lbs psi on completion.

Survey Fee ... £ 13 : 18 : 0 When applied for, 8 : 1 : 19 44
SUPERVISION
Travelling Expenses (if any) £ 3 : 9 : 6 When received, 19

Committee's Minute TUES. 25 JUL 1944
Assigned see minute on J.E.Rpt
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