

REPORT ON BOILERS.

No. 11318

11 JAN 1943

1 JUL 1943

Received at London Office

Date of writing Report 31-12-1942 When handed in at Local Office 8/11/43

Port of Manchester

No. in Reg. Book. Survey held at Hyde - Manchester

Date, First Survey 14-4-42

Last Survey 22-12-1942

on the

M.V. BRITISH PATIENCE

(Number of Visits 21)

Tons { Gross Net

Master Built at Glasgow. By whom built Harland & Wolff Ltd. No. 1166 When built 1943.

Engines made at Glasgow. By whom made Harland & Wolff Ltd. Engine No. 1166 When made 1943.

Boilers made at Hyde. By whom made Joseph Adamson & Co. Ltd. Boiler No. 103 When made 1942

(PORT BOILER No. 2586) G.R.M. Port belonging to

Nominal Horse Power

Owners

PORT BOILER

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel COLVILLES L^{td}. GLASGOW (Letter for Record (S))

Total Heating Surface of Boilers 1918 SQ. FT. Is forced draught fitted YES Coal or Oil fired OIL.

No. and Description of Boilers ONE S.E. MULTITUBULAR CYLINDRICAL DONKEY BOILER Working Pressure 150 1/2 lb/sq in

Tested by hydraulic pressure to 275 1/2 lb/sq in Date of test 12-10-42 No. of Certificate 103 Can each boiler be worked separately YES.

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2 1/4" DIA. DOUBLE IMPROVED HIGH LIFT NOT FITTED BY J. ADAMSON & CO

Area of each set of valves per boiler per Rule 3.63 sq. in. as fitted 3.98 " Pressure to which they are adjusted 150 lb. 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 well clear Is oil fuel carried in the double bottom under boilers YES

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated YES

Largest internal dia. of boilers 12'-6" Length 11'-0" Shell plates: Material O.H. STEEL Tensile strength 29/33 TONS/SQ IN

Thickness 7/8" Are the shell plates welded or flanged NO Description of riveting: circ. seams end DOUBLE RIVETED L.J. inter.

long. seams D.B. STRAPS, 5 RIVETS/PITCH Diameter of rivet holes in circ. seams 1 3/32" long. seams 1 1/32" Pitch of rivets 3.038" 6 1/16"

Percentage of strength of circ. end seams plate 64.0 rivets 56.0 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 84.57 rivets 106.7 combined 90.5 Working pressure of shell by Rules 154.6 1/2 lb/sq in

Thickness of butt straps outer 1 1/16" inner 13/16" No. and Description of Furnaces in each Boiler TWO DEIGHTON CORRUGATED FURNACES

Material O.H. STEEL. Tensile strength 26/30 TONS/SQ IN Smallest outside diameter 3'-6"

Length of plain part top bottom Thickness of plates crown bottom 1/2" Description of longitudinal joint WELDED.

Dimensions of stiffening rings on furnace or e.c. bottom Working pressure of furnace by Rules 171 1/2 lb/sq in

End plates in steam space: Material O.H. STEEL Tensile strength 26/30 TONS/SQ IN Thickness 15/16" Pitch of stays 15" x 16 3/4"

How are stays secured NUTS INSIDE & OUTSIDE Working pressure by Rules 159.7 1/2 lb/sq in

Tube plates: Material front O.H. STEEL back O.H. STEEL. Tensile strength 26/30 TONS/SQ IN Thickness 7/8" 13/16"

Mean pitch of stay tubes in nests 9.53" Pitch across wide water spaces 13 1/2" x 7 1/4" Working pressure front 161.4 1/2 lb/sq in back 261.6 1/2 lb/sq in

Girders to combustion chamber tops: Material O.H. STEEL Tensile strength 28/32 TONS/SQ IN Depth and thickness of girder

at centre 8 1/4", Two 3/4" THICK Length as per Rule 29 15/16" Distance apart 11" No. and pitch of stays

in each 3 AT 7 1/4" Working pressure by Rules 162.3 1/2 lb/sq in Combustion chamber plates: Material O.H. STEEL

Tensile strength 26/30 TONS/SQ IN Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 3/4"

Pitch of stays to ditto: Sides 9 3/4" x 8 1/4" Back 8" x 9 1/4" Top 7 1/4" x 11" Are stays fitted with nuts or riveted over OTHERS RIVETED OVER

Working pressure by Rules 162.5 1/2 lb/sq in Front plate at bottom: Material O.H. STEEL Tensile strength 26/30 TONS/SQ IN

Thickness 7/8" Lower back plate: Material O.H. STEEL Tensile strength 26/30 TONS/SQ IN Thickness 15/16"

Pitch of stays at wide water space 13" x 9 1/4" Are stays fitted with nuts or riveted over RIVETED OVER

Working Pressure 188.3 1/2 lb/sq in Main stays: Material O.H. STEEL Tensile strength 28/32 TONS/SQ IN

Diameter At body of stay, or Over threads } 2 1/2" No. of threads per inch 6 Area supported by each stay 255.4 SQ. INS.

Working pressure by Rules 173.4 1/2 lb/sq in Screw stays: Material O.H. STEEL Tensile strength 26/30 TONS/SQ IN

Diameter At turned off part, or Over threads } 1 1/2" No. of threads per inch 11 Area supported by each stay 80.44 SQ. INS.

Working pressure by Rules 155.96/2 Are the stays drilled at the outer ends NO Margin stays: Diameter ^{At turned off part,} 1 5/8" & 2" AT CORNERS
 No. of threads per inch 11 Area supported by each stay 97.12 SQ. INS. Working pressure by Rules 156.7 25/2"
 Tubes: Material O.H. STEEL External diameter ^{Plain} 2 1/2" Thickness ^{10 L.S.G.} 1/4", 5/16" & 3/8" No. of threads per inch 9
 Pitch of tubes 3 3/4" x 3 5/8" Working pressure by Rules 150 25/2" Manhole compensation: Size of opening in
 shell plate 12 1/2" x 16 1/2" Section of compensating ring 9 3/4" x 3 1/4" No. of rivets and diameter of rivet holes 28 - 1 7/32" DIA
 Outer row rivet pitch at ends 9" Depth of flange if manhole flanged 3 3/8" LOWER 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}
 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} Joseph Adams & Co. Ltd. ^{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 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 23 inclusive for boilers been complied with. YES, WHERE APPLICABLE

The foregoing is a correct description,
 JOSEPH ADAMSON & CO. LIMITED. Manufacturer.
 Joseph Adams

Joint Managing Director
 Are the approved plans of boiler and superheater forwarded herewith
 (If not state date of approval.)
 Dates of Survey while building: April 14, May 6 & 14, June 10, July 3rd, 7th, 18th, 31st, AUG 4th, 11th, 19th, 25th, SEPT 4th, 24th, OCT 12th, 20th, 28th, NOV 5th, 13th, 25th, DEC 22nd, 1942.
 Total No. of visits

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been constructed under Special Survey, of tested materials and in accordance with the Secretary's letters, the approved plans and the requirements of the Rules. The materials and workmanship are of good quality and the boiler when tested in the shops under an hydraulic pressure of two hundred and seventy five pounds per square inch was found sound and tight.

This boiler is, in opinion, suitable to be fitted on board a vessel classed with this Society and for the purpose intended. The boiler shell plate at the front end and left hand side has been stamped

**N° 103
 LLOYDS TEST
 275 25/2"
 WP 150 25/2"
 DRW 12-10-42**

This boiler has been properly fitted on board, & its safety valves adjusted under steam to 150 lb per sq inch & found satisfactory. Post Boiler compression washers, P.S. 7/16"
 G. E. Murdoch,

Survey Fee ... £ : : When applied for, 19
 Travelling Expenses (if any) £ : : When received, 19

D. Whalburn & L. Mathew
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 29 JUN 1943

Assigned

