

## REPORT ON BOILERS.

No. 10957

Received at London Office 13 APR 1942

53 JUN 1942

Size of open 9<sup>th</sup> April 1942 When handed in at Local Office 11<sup>th</sup> April 1942 Port of Manchester

Survey held at Hyde, nr. Manchester Date, First Survey 17<sup>th</sup> Nov. 1941 Last Survey 16<sup>th</sup> March 1942

on the M.V. British Vigilance (Number of Visits 15) Gross 8093 Tons Net 4575

Built at Glasgow By whom built Harland & Wolff Ltd. Yard No. 1116G When built 1942

By whom made Hyde, nr. Manchester Engine No. 96 When made 1942

By whom made J. Adamson & Co. Ltd. Boiler No. 97 When made 1942

Owners 128 each boiler Port belonging to ✓

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

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

Heating Surface of Boilers 1918 sq. ft. each boiler Is forced draught fitted Yes Oil fired ✓ Ex. gas ✓

Description of Boilers Two S.E. Cyl. Multitubular Donkey Boilers Working Pressure 150 lbs/sq. in.

Tested by hydraulic pressure to 275 lbs Date of test 16-2-42 No. of Certificate 96

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler Not fitted by J. Adamson & Co. Ltd.

Pressure to which they are adjusted ✓ Are they fitted with easing gear ✓

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

Least distance between shell of boiler and tank top plating ✓ Is the bottom of the boiler insulated ✓

Thick. 7/8" Are the shell plates welded or flanged No Shell plates: Material S.M. Steel Tensile strength 29-33 T/sq. in.

Seams Double riv. D. Butt straps Diameter of rivet holes in 13/32" Description of riveting: circ. seams Double inter. 3.038"

Percentage of strength of circ. end seams 64% 56% Percentage of strength of circ. intermediate seam 84.57% 106.7% 90.5%

Percentage of strength of longitudinal joint 11/16" Working pressure of shell by Rules 154.6 lbs/sq. in.

Thickness of butt straps outer 11/16" inner 13/16" No. and Description of Furnaces in each Boiler Two corrugated, Deight section

Material S.M. Steel Tensile strength 26-30 T/sq. in. Smallest outside diameter 3'-6"

Length of plain part ✓ Thickness of plates 1/2" Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 171 lbs

Plates in steam space: Material S.M. Steel Tensile strength 26-30 T/sq. in. Thickness 15/16" Pitch of stays 15" x 16 3/4"

Are stays secured Double nuts Working pressure by Rules 159.7

Front plates: Material S.M. Steel Tensile strength 26-30 T/sq. in. Thickness 7/8" Pitch of stays 15" x 16 3/4"

Back plates: Material S.M. Steel Tensile strength 26-30 T/sq. in. Thickness 13/16" Working pressure 161.4 lbs

Pitch of stay tubes in nests 9.53" Pitch across wide water spaces 13 1/2" x 7 1/4" Working pressure 261.6 lbs

Distance to combustion chamber tops: Material S.M. Steel Tensile strength 28-32 T/sq. in. Depth and thickness of girder 11"

Centre 8 1/4", 1 1/2" Length as per Rule 29 15/16" Distance apart 11" No. and pitch of stays 3 at 9 1/4"

Working pressure by Rules 162.3 lbs Combustion chamber plates: Material S.M. Steel

Tensile strength 26-30 T/sq. in. Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 3/4"

Thickness 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 ribeted over others riveted over

Working pressure by Rules 162.5 lbs Front plate at bottom: Material S.M. Steel Tensile strength 26-30 T/sq. in.

Thickness 7/8" Lower back plate: Material S.M. Steel Tensile strength 26-30 T/sq. in. Thickness 15/16"

Working pressure 188.3 lbs Main stays: Material S.M. Steel Tensile strength 28-32 T/sq. in.

Working pressure by Rules 173.4 lbs Screw stays: Material S.M. Steel Tensile strength 26-30 T/sq. in.

At body of stay, 2 1/2" No. of threads per inch 6 Area supported by each stay 255.4 sq. in.

At turned off part, 1 1/2" No. of threads per inch 11 Area supported by each stay 80.44 sq. in.

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Working pressure by Rules 155.9 lb. Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part or Over threads 15/8" 2" at c  
No. of threads per inch 11 Area supported by each stay 97.12 sq. in. Working pressure by Rules 156.7 lb.  
Tubes: Material S.M. Steel External diameter { Plain 2 1/2" 2 3/4" 2 1/2" 2 3/4" 2 1/2" 2 3/4" Thickness { 1/4", 5/16" + 3/8" No. of threads per inch 9  
Pitch of tubes 3 3/4" x 3 3/8" Working pressure by Rules 157 lb. Manhole compensation: Size of open  
shell plate 12 1/2" x 16 1/2" Section of compensating ring 17 9/16" x 3/4" No. of rivets and diameter of rivet holes 28, 1 1/32 dia.  
Outer row rivet pitch at ends 9" Depth of flange if manhole flanged 2" (welded ring) 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 diam  
stays Inner radius of crown Working pressure by Rules  
How connected to shell Size of doubling plate under dome Diameter of rivet holes and  
of rivets in outer row in dome connection to shell

Type of Superheater Manufacturers of { Tubes 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  
Rules Pressure to which the safety valves are adjusted Hydraulic test pres  
tubes castings and after assembly in place Are drain cocks or valves  
to free the superheater from water where necessary

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes For JOSEPH ADAMSON & CO. LTD.  
The foregoing is a correct description,  
J. H. Adamson Manufac  
Dates of Survey { During progress of work in shops - - 17-11-41, 17-12-41, 24-12-41, 5-1-42, 9-1-42, 15-1-42, 28-1-42, 4-2-42, 11-2-42, 16-2-42, 23-2-42, 28-2-42, 6-3-42, 9-3-42, 16-3-42, 18-11-42  
while building { During erection on board vessel - - - Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
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.) These boilers have been constructed under Special Survey of tested materials and in accordance with the Secretary's letters, approved plans and the requirements of the Rules. The materials and workmanship are of good quality and boilers when tested in the shop under hydraulic pressure of 275 lb were found sound and tight.

These boilers are in my opinion, suitable to be fitted on board a vessel classed with this Society for the purpose intended.

For identification purposes, boilers were marked:-  
Nº 96 LLOYDS TEST. 275 LBS. W.P. 150 LBS. W.T.M. 16-2-42.  
Nº 97 LLOYDS TEST. 275 LBS. W.P. 150 LBS. W.T.M. 28-2-42.

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

L. J. Mathison  
Engineer Surveyor to Lloyd's Register of Ships

Committee's Minute GLASGOW 2 JUN 1942  
Assigned E ACCOMPANYING MACHINERY REPORT.