

## REPORT ON BOILERS.

No. 99856

Received at London Office 21 OCT 1941  
 Date of writing Report 19 When handed in at Local Office 17/10/1941 Port of NEWCASTLE-ON-TYNE  
 No. in Survey held at Newcastle on Tyne Date, First Survey 10 April 1940 East Survey 23 Sept 1941  
 Reg. Book. on the M.V. "BRITISH HARMONY"  
 (Number of Visits) Gross 8453 Tons Net 4897  
 Master Built at Newcastle By whom built Swan, Hunter & Wigham Richardson Ltd. Yard No. 1696 When built 1941-  
 Engines made at Newcastle By whom made ditto Engine No. 1696 When made 1941-  
 Boilers made at ditto By whom made ditto Boiler No. 1696 When made 1941-  
 Nominal Horse Power 235 Owners British Tanker Co. Port belonging to LONDON.

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

Manufacturers of Steel The Steel Coy. of Scotland. (Letter for Record S.)  
 Total Heating Surface of Boilers 3530 sq ft Is forced draught fitted Yes Coal or Oil fired oil fired and waste gas  
 No. and Description of Boilers Two Single ended Multitubular Working Pressure 150 lbs  
 Tested by hydraulic pressure to 275 lbs Date of test 10/6/41 No. of Certificate 897 Can each boiler be worked separately Yes  
 Area of Firegrate in each Boiler oil fired No. and Description of safety valves to each boiler Two 2 1/2" dia Cockburn's Improved High Lift  
 Area of each set of valves per boiler {per Rule 7.56 sq ins as fitted 7.95 " " Pressure to which they are adjusted 150 lbs 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 tank double bottom under boilers Yes  
 Smallest distance between shell of boiler and tank top plating 2'3" Is the bottom of the boiler insulated Yes  
 Largest internal dia. of boilers 12'4 3/8" Length 11'-0" Shell plates: Material Steel Tensile strength 30 to 34 tons  
 Thickness 13" Are the shell plates welded or flanged No Description of riveting: circ. seams end D.R. overlap inner none  
 Long. seams T.R. Dble butt Straps Diameter of rivet holes in {circ. seams 15/16" Pitch of rivets 3.08 {long. seams 7/8" 6 3/16" (Rule max = 6 1/2")  
 Percentage of strength of circ. end seams {plate 69.59 rivets 42.24 Percentage of strength of circ. intermediate seam {plate None rivets  
 Percentage of strength of longitudinal joint {plate 85.85 rivets 85.96 combined 88.91 Working pressure of shell by Rules 151 lbs  
 Thickness of butt straps {outer 5/8" inner 3/4" No. and Description of Furnaces in each Boiler Two Deighton Corrugated  
 Material Steel Tensile strength 26 to 30 tons Smallest outside diameter 3'7 1/16"  
 Length of plain part {top Thickness of plates {crown 15/32" Description of longitudinal joint Fire welded bottom none  
 Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 156 lbs  
 End plates in steam space: Material Steel Tensile strength 26 to 30 tons Thickness 15/16" Pitch of stays 17 3/4" x 14 5/8"  
 How are stays secured Nuts inside & outside Working pressure by Rules 152 lbs  
 Tube plates: Material {front Steel back Tensile strength 26 to 30 tons Thickness {15/16" 3/4"  
 Mean pitch of stay tubes in nests 7 1/2" x 11 1/4" Pitch across wide water spaces 13 1/2" Working pressure {front 183 lbs back 228 lbs  
 Girders to combustion chamber tops: Material Steel Tensile strength 28 to 32 tons Depth and thickness of girder  
 at centre 7 3/4" x 5 7/8" x two Length as per Rule 30 1/2" Distance apart 9" No. and pitch of stays  
 in each Two @ 9 3/8" Working pressure by Rules 153 lbs Combustion chamber plates: Material Steel  
 Tensile strength 26 to 30 tons Thickness: Sides 5/8" Back 3/4" Top 5/8" Bottom 5/8"  
 Pitch of stays to ditto: Sides 9 3/8" x 9" Back 7 1/2" x 9" Top 9 3/8" x 9" Are stays fitted with nuts or riveted over C.Ch. marginal & side stays, riveted both ends. Remainder of back stays are riveted inside and nuts outside.  
 Working pressure by Rules 160 lbs Front plate at bottom: Material Steel Tensile strength 26 to 30 tons Thickness 15/16"  
 Pitch of stays at wide water space 13 1/2" x 9" Are stays fitted with nuts or riveted over with nuts  
 Working Pressure 155 lbs min Main stays: Material Steel Tensile strength 28 to 32 tons  
 Diameter {At body of stay, 2 3/8" or Over threads No. of threads per inch 6 Area supported by each stay 246.4 sq ins  
 Working pressure by Rules 159 lbs Screw stays: Material Steel Tensile strength 26 to 30 tons  
 Diameter {At turned off part, 1 1/2" or Over threads No. of threads per inch 9 Area supported by each stay 84 sq ins

Conto P.T.O.

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Working pressure by Rules 151 lb Are the stays drilled at the outer ends No Margin stays: Diameter At turned off part, 1 5/8" & 1 3/4"  
 No. of threads per inch 9 Area supported by each stay 92.8 sq Working pressure by Rules 163 lb  
 Tubes: Material Steel External diameter 2 1/2" Thickness 10 W.G. No. of threads per inch 9  
 Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 166 lb min Manhole compensation: Size of opening in  
 shell plate 20" x 16" Section of compensating ring 17 1/2" x 1 3/16" No. of rivets and diameter of rivet holes 38 7/8 dia  
 Outer row rivet pitch at ends 8" Depth of flange if manhole flanged 2 1/2" Steam Dome: Material None  
 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 \_\_\_\_\_ Rivets \_\_\_\_\_  
 stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ No. and diameter of  
 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 None Manufacturers of Tubes  
 Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Steel forgings \_\_\_\_\_  
 Material of headers \_\_\_\_\_ Tensile strength \_\_\_\_\_ Steel castings \_\_\_\_\_  
 the boiler be worked separately \_\_\_\_\_ Internal diameter and thickness of tubes \_\_\_\_\_  
 Area of each safety valve \_\_\_\_\_ Thickness \_\_\_\_\_ Can the superheater be shut off and  
 Rules \_\_\_\_\_ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler \_\_\_\_\_  
 tubes \_\_\_\_\_ Are the safety valves fitted with easing gear \_\_\_\_\_ Working pressure as per  
 forgings and castings \_\_\_\_\_ Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressure:  
 valves fitted to free the superheater from water where necessary \_\_\_\_\_ and after assembly in place \_\_\_\_\_ Are drain cocks or  
 Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

The foregoing is a correct description,  
 SWAN, HUNTER, & WIGHAM RICHARDSON, LTD

G. J. J. J. J. Manufacturer.

Dates of Survey During progress of work in shops - - See Monthly Report Are the approved plans of boiler and superheater forwarded herewith 9/9/40  
while building - - During erection on board vessel - - (If not state date of approval.)  
 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.)

Survey Fee ... £ See Monthly Report When applied for, 19 \_\_\_\_\_  
 Travelling Expenses (if any) £ : : When received, 19 \_\_\_\_\_

A. Watt

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 11 NOV 1941

Assigned

See Nov. 76. 99856



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