

## REPORT ON BOILERS.

Std. No. 32540

Hull No. 16466

Received at London Office

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Date of writing Report 2<sup>nd</sup> November 1938 When handed in at Local Office 16<sup>th</sup> November 1938 Port of EllidallabroughNo. in Survey held at Stockton Date, First Survey 22<sup>nd</sup> September Last Survey 25<sup>th</sup> October 1938Reg. Book. M.V. "BRITISH GENIUS" (Number of Visits 1) Tons {Gross 8553  
Net 4961Master W. Lee for Ashol Built at Sunderland By whom built W. Lee for Ashol Yard No. 644 When built 1939Engines made at Sunderland By whom made W. Lee for Ashol Engine No. 644 When made 1939Boilers made at Stockton By whom made Stockton C. & Riley Boiler Co. Ltd Boiler No. 6293 When made 1938Nominal Horse Power 684 Owners British Tanker Co. Ltd Port belonging to London

## MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Company of Scotland Ltd. (Letter for Record Yes)Total Heating Surface of Boilers 1523 sq. ft. Is forced draught fitted Yes Coal or Oil fired oilNo. and Description of Boilers 1 S.B. Working Pressure 150 lbs.Tested by hydraulic pressure to 275 Date of test 25.10.38 No. of Certificate 6958 Can each boiler be worked separately YesArea of Firegrate in each Boiler 11.6 sq. ft. No. and Description of safety valves to each boiler 2 Direct SpringArea of each set of valves per boiler {per Rule 14.1 sq. ft. as fitted} Pressure to which they are adjusted 150 Are they fitted with easing gear YesIn case of donkey boilers, state whether steam from main boilers can enter the donkey boiler YesSmallest distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilersSmallest distance between shell of boiler and tank top plating (Bht in upper men) Is the bottom of the boiler insulated YesLargest internal dia. of boilers 11'-4 1/2" Length 11'-6" Shell plates: Material S Tensile strength 29/33Thickness 27/32" Are the shell plates welded or flanged no Description of riveting: circ. seams {end DR  
inter. ✓long. seams T.R. D.B.S. Diameter of rivet holes in {circ. seams 1"  
long. seams 7/8" Pitch of rivets {3 1/4"  
6 1/8"Percentage of strength of circ. end seams {plate 69.2  
rivets 48.8 Percentage of strength of circ. intermediate seam {plate ✓  
rivets ✓Percentage of strength of longitudinal joint {plate 85.7  
rivets 93.2 Working pressure of shell by Rules 152 lbs.Thickness of butt straps {outer 19/32"  
inner 23/32" No. and Description of Furnaces in each Boiler 2 C.F.Material S Tensile strength 26-30 Smallest outside diameter 3'-2 1/4"Length of plain part {top ✓  
bottom ✓ Thickness of plates {crown 13/32"  
bottom 13/32" Description of longitudinal joint weldDimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 151 lbs.End plates in steam space: Material S Tensile strength 26-30 Thickness 27/32 Pitch of stays 14 x 15 1/2How are stays secured D.N. & washers Working pressure by Rules 150 lbs.Tube plates: Material {front S  
back S Tensile strength {26-30 Thickness {27/32  
1/6"Mean pitch of stay tubes in nests 10 3/8" Pitch across wide water spaces 13 1/2" Working pressure {front 204 lbs  
back 162 lbsGirders to combustion chamber tops: Material S Tensile strength 28-32 Depth and thickness of girderat centre 8" x 1 1/4" Length as per Rule 27 19/32" Distance apart 8" No. and pitch of staysin each 2 27 1/2" Working pressure by Rules 214 lbs. Combustion chamber plates: Material STensile strength 26-30 Thickness: Sides 5/8" Back 23/32" Top 5/8" Bottom 5/8"Pitch of stays to ditto: Sides 9 3/8" x 9" Back 9 x 8" Top 8" x 7 1/2" Are stays fitted with nuts or riveted over nuts except back plate in nestWorking pressure by Rules 159 lbs. Front plate at bottom: Material S Tensile strength 26/30Thickness 27/32 Lower back plate: Material S Tensile strength 26-30 Thickness 27/32Pitch of stays at wide water space 13 1/2" x 9" Are stays fitted with nuts or riveted over nutsWorking Pressure 220 lbs. Main stays: Material S Tensile strength 28-32Diameter {At body of stay, 2 3/8"  
Over threads 2 3/8" No. of threads per inch 6 Area supported by each stay 208 sq. in.Working pressure by Rules 188 lbs. Screw stays: Material S Tensile strength 26-30Diameter {At turned off part, 1 1/2"  
Over threads 1 1/2" No. of threads per inch 9 Area supported by each stay 84.4 sq. in.



Working pressure by Rules 165 Are the stays drilled at the outer ends no. Margin stays: Diameter 1 7/8" { At turned off part, or Over threads. 1 7/8"  
 No. of threads per inch 9 Area supported by each stay 47 0" Working pressure by Rules 157 lbs  
 Tubes: Material Lap Weld Iron External diameter { Plain 2 1/2" Thickness 10 wks No. of threads per inch 9  
 Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 209 lbs Manhole compensation: Size of opening in  
 shell plate 20" x 4" Section of compensating ring 9" x 1" No. of rivets and diameter of rivet holes 32 @ 1 1/4"  
 Outer row rivet pitch at ends 8 3/4" Depth of flange if manhole flanged ✓ Steam Dome: Material ✓  
 Tensile strength ✓ Thickness of shell ✓ Description of longitudinal joint { Plate Rivets  
 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 diameter of  
 stays ✓ Inner radius of crown ✓ Working pressure by Rules ✓ Diameter of rivet holes and pitch  
 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 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 22 inclusive for boilers been complied with yes

For and on behalf of  
 STOCKTON CHEMICAL ENGINEERS & RILEY BOILERS LTD.  
 The foregoing is a correct description,  
How Poley Manufacturer  
 DIRECTOR

Dates of Survey { During progress of work in shops - - - Sept. 22, 27 Oct 3, 7, 10, 18, 25, 1938 Are the approved plans of boiler and superheater forwarded herewith 17-6-37  
 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.) This boiler has been made under Special Survey in accordance with the approved Plan & the requirements of the Rules. The materials & workmanship are good & a satisfactory hydraulic test of 275 lbs. has been held. The boiler is to be fitted on board at Sunderland.

This boiler has been securely fixed on board the vessel examined under Steam & safety valves adjusted in accordance with Rule requirements.

In recommendation please See Encl. Rpt.  
P. J. Kasser.

Survey Fee ... £ 10 : 3 : 0 When applied for, 11 November 1938  
 Travelling Expenses (if any) £ ... When received, 1.2. 19 39

Robert Pitt  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 20 JAN 1939  
 Assigned See F.E. Mackay, rpt.