

REPORT ON BOILERS.

No. 20841.

Received at London Office 9 NOV 1939

Writing Report 2ND Nov. 1939. When handed in at Local Office 6TH NOVEMBER, 1939. Port of GREENOCK.

Survey held at GREENOCK Date, First Survey 3RD NOVEMBER, 1938. Last Survey 31ST Oct 1939.

on the SINGLE SC. M.V. DONACILLA (Number of Visits ✓) Gross 8113 Tons Net 4755

Built at Glasgow. By whom built Blythwood S.B. Co Yard No. 57 When built 1939
Engines made at GREENOCK By whom made J. G. Kincaid & Co. L^{TD} Engine No. 126 When made 1939
Boilers made at GREENOCK By whom made J. G. Kincaid & Co. L^{TD} Boiler No. 126 When made 1939
Nominal Horse Power 502.3 Owners Anglo-Saxon Petroleum Co Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles L^{TD} (Letter for Record S ✓)

Total Heating Surface of Boilers 3502² Is forced draught fitted Yes ✓ Coal or Oil fired or Gas gas

Description of Boilers One S.E. cylindrical Working Pressure 180 lbs ✓

Tested by hydraulic pressure to 320 lbs Date of test 9-5-39 No. of Certificate 2189 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler One double opening I.H.L. ✓

Area of each set of valves per boiler per Rule 11.22 as fitted 14.14 Pressure to which they are adjusted 180 lbs 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 Is oil fuel carried in the double bottom under boilers ✓

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

Largest internal dia. of boilers 16'-3" Length 12'-6" Shell plates: Material S Tensile strength 29/33 tons ✓

Thickness 15/16 Are the shell plates welded or flanged No ✓ Description of riveting: circ. seams end DR inter. ✓

g. seams TR DGS Diameter of rivet holes in circ. seams 13/8 long. seams 15/16 Pitch of rivets 3.953 9.9375 ✓

Percentage of strength of circ. end seams plate 65 rivets 45.3 Percentage of strength of circ. intermediate seam plate 85.3 rivets 85.7 combined 87.6 Working pressure of shell by Rules 184.5 lbs ✓

Thickness of butt straps outer 1 inner 1/8 No. and Description of Furnaces in each Boiler 3 Dighton 3ef ✓

Material S Tensile strength 24/30 tons Smallest outside diameter 3-11 3/4 ✓

Length of plain part top bottom Thickness of plates crown 19/32 bottom 1/32 Description of longitudinal joint Weld ✓

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 183 lbs ✓

Head plates in steam space: Material S Tensile strength 26/30 tons Thickness 1/4 Pitch of stays 19 1/2 x 19 1/2 ✓

Are stays secured DN washers Working pressure by Rules 159 lbs ✓

Head plates: Material front S back S Tensile strength 26/30 tons Thickness 15/16 23/32 ✓

Can pitch of stay tubes in nests 9-375" Pitch across wide water spaces 13 1/2 Working pressure front 182.5 lbs back 209.5 lbs ✓

Orders to combustion chamber tops: Material S Tensile strength 29/33 tons Depth and thickness of girder

centre 9 3/4 x 7 1/2 Length as per Rule 38.5 Distance apart 9 No. and pitch of stays

each 40 7/4 Working pressure by Rules 182 lbs Combustion chamber plates: Material S ✓

Tensile strength 26/30 tons Thickness: Sides 1/16 Back 1/16 Top 1/16 Bottom 7/8 ✓

Pitch of stays to ditto: Sides 7 3/4 x 7 1/4 Back 6 3/4 x 8 1/6 Top 9 x 7 3/4 Are stays fitted with nuts or riveted over Marginal NUTTED. ✓

Working pressure by Rules 196 lbs Front plate at bottom: Material S Tensile strength 26/30 tons ✓

Thickness 15/16 Lower back plate: Material S Tensile strength 26/30 tons Thickness 13/16 ✓

Pitch of stays at wide water space 14 Are stays fitted with nuts or riveted over Nuts ✓

Working Pressure 205 Main stays: Material S Tensile strength 28/32 tons ✓

Working pressure by Rules 221 Diameter At body of stay 3 No. of threads per inch 6 Area supported by each stay 418 ✓

At turned off part 13/8 No. of threads per inch 9 Area supported by each stay 56.2 ✓

Working pressure by Rules 221 Diameter Over threads 13/8 No. of threads per inch 9 Area supported by each stay 56.2 ✓

Working pressure by Rules 180.2 Are the stays drilled at the outer ends No. Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part} \\ \text{or} \\ \text{Over threads} \end{array} \right. \frac{1.5}{8}$
 No. of threads per inch 9 Area supported by each stay 83.6 Working pressure by Rules 182
 Tubes: Material W1. External diameter $\left\{ \begin{array}{l} \text{Plain} \\ \text{Stay} \end{array} \right. \left. \begin{array}{l} 2\frac{1}{2} \\ 2\frac{1}{2} \end{array} \right.$ Thickness $\left\{ \begin{array}{l} 9/32 \\ 1/32 \end{array} \right.$ No. of threads per inch 9
 Pitch of tubes 3 3/4 x 3 3/4 Working pressure by Rules 193 Manhole compensation: Size of opening
 shell plate 16 1/2 x 20 1/2 Section of compensating ring 3 1/2 x 2 10 1/2 No. of rivets and diameter of rivet holes 38 - 1 1/2
 Outer row rivet pitch at ends 10 1/4 Depth of flange if manhole flanged 3 1/2 x 3 1/2 Steam Dome: Material
 Tensile strength Thickness of shell Description of longitudinal joint
 Diameter of rivet holes Pitch of rivets Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$
 Internal diameter Working pressure by Rules Thickness of crown No. and diameter
 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 $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel forgings} \\ \text{Steel castings} \end{array} \right.$
 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 forgings and castings and after assembly in place Are drain coc
 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

The foregoing is a correct description,
 For JOHN G. KINCAID & CO. LIMITED.
W. Kincaid Director.

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of} \\ \text{work in shops - -} \\ \text{while} \\ \text{building} \end{array} \right. \left\{ \begin{array}{l} \text{During erection on} \\ \text{board vessel - - -} \end{array} \right.$ Are the approved plans of boiler and superheater forwarded herewith Yes
 (If not state date of approval.)
 Total No. of visits
See Machinery Report

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 built under special survey in accordance with the Rules and approved plan. The materials & workmanship are good. The safety valves have been adjusted under steam, accumulation nil. This boiler is eligible in my opinion to be fitted on a vessel Classed in the Society's Register Book.

Survey Fee £ : : } When applied for, 19
 Travelling Expenses (if any) £ : : } When received, 19
See accompanying report

Charles H. Hunter
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **GLASGOW 7 - NOV 1830**

Assigned **SEE ACCOMPANYING MACHINERY REPORT.**

