

REPORT ON BOILERS.

No. 20881.

JAN 10 1940

Received at London Office

Date of writing Report 3RD JAN 4 1940 When handed in at Local Office 5TH JANUARY 1940 Port of GREENOCK

No. in Reg. Book. Survey held at GREENOCK

Date, First Survey 22ND MARCH 1939 Last Survey 28TH DECEMBER 1939

(Number of Visits ✓) Tons { Gross 8120.34 Net 4785.01

on the SINGLE SC M.V. "DESMOULEA"

Master Built at PORT GLASGOW By whom built LITHGOWS LTD Yard No. 920 When built 1939

Engines made at GREENOCK By whom made JOHN G. KINCAID & CO. LTD Engine No. 128 When made 1939

Boilers made at GREENOCK By whom made JOHN G. KINCAID & CO. LTD Boiler No. 128 When made 1939

Nominal Horse Power 502.3 Owners Anglo Saxon Petroleum Co. Port belonging to LONDON

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

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

Total Heating Surface of Boilers 3502 ✓ Is forced draught fitted Yes ✓ Coal or Oil fired Oil or Gas

No. and Description of Boilers One S.E. cylindrical ✓ Working Pressure 180 lbs ✓

Tested by hydraulic pressure to 320 lbs Date of test 17-7-39 No. of Certificate 2193 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler One double opening app^{HL} ✓

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 ✓

Thickness 1 5/16" ✓ Are the shell plates welded or flanged No ✓ Description of riveting: circ. seams { end DR ✓ inter. ✓

long. seams TR DBS ✓ Diameter of rivet holes in { circ. seams 1 3/8" ✓ long. seams 1 5/16" ✓ Pitch of rivets { 3.953" ✓ 8.9375" ✓

Percentage of strength of circ. end seams { plate 65% ✓ rivets 45.3% ✓ Percentage of strength of circ. intermediate seam { plate ✓ rivets ✓

Percentage of strength of longitudinal joint { 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 1/8" ✓ No. and Description of Furnaces in each Boiler 3 Deighton ✓

Material S ✓ Tensile strength 26/30 tons ✓ Smallest outside diameter 3'-11 3/16" ✓

Length of plain part { top ✓ bottom ✓ Thickness of plates { crown 1 9/32" ✓ bottom 1 9/32" ✓ Description of longitudinal joint Weld ✓

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

End plates in steam space: Material S ✓ Tensile strength 26/30 tons ✓ Thickness 1 1/4" ✓ Pitch of stays 22 1/2 x 19 1/2" ✓

How are stays secured Double nuts & washers ✓ Working pressure by Rules 189 lbs ✓

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

Mean pitch of stay tubes in nests 9.375" ✓ Pitch across wide water spaces 13 1/2" ✓ Working pressure { front 182.5 ✓ back 209.5 ✓

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

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

in each 4 @ 7 3/4" ✓ Working pressure by Rules 182 lbs ✓ Combustion chamber plates: Material S ✓

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

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

Working pressure by Rules 196 ✓ 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" ✓

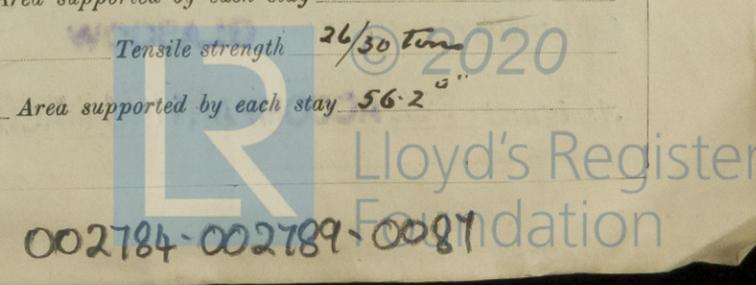
Pitch of stays at wide water space 14" ✓ Are stays fitted with nuts or riveted over Nuts ✓

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

Diameter { At body of stay, 3" ✓ or Over threads No. of threads per inch 6 ✓ Area supported by each stay 418" ✓

Working pressure by Rules 221 lbs ✓ Screw stays: Material S ✓ Tensile strength 26/30 tons ✓

Diameter { At turned off part, 1 3/8" ✓ or Over threads No. of threads per inch 9 ✓ Area supported by each stay 56.2" ✓



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Working pressure by Rules 180.24 Are the stays drilled at the outer ends No Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{or} \\ \text{Over threads} \end{array} \right. 1\frac{5}{8}"$
 No. of threads per inch 9 Area supported by each stay 83.6" Working pressure by Rules 1824
 Tubes: Material W.I. 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 $\left\{ \begin{array}{l} 9\text{wg} \\ 9/32 \quad 11/32 \end{array} \right.$ No. of threads per inch 9
 Pitch of tubes 3 $\frac{3}{4}$ " x 3 $\frac{3}{4}$ " Working pressure by Rules 1934 Manhole compensation: Size of opening in shell plate 16 $\frac{1}{2}$ " x 20 $\frac{1}{2}$ " Section of compensating ring 3'-1 $\frac{1}{2}$ " x 2'-10 $\frac{1}{2}$ " No. of rivets and diameter of rivet holes 38 - 1 $\frac{1}{2}$ "
 Outer row rivet pitch at ends 10 $\frac{1}{4}$ " Depth of flange if manhole flanged 3 $\frac{1}{2}$ " 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 of stays
 How connected to shell Inner radius of crown Working pressure by Rules
 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 $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel forgings} \\ \text{Steel castings} \end{array} \right.$
 Number of elements Material of tubes Internal diameter and thickness of tubes
 Material of headers Tensile strength Thickness Can the superheater be shut off 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 forgings and 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

The foregoing is a correct description,
 For JOHN G. KINGAID & CO. LIMITED.
W. Cairns Director, Manufacturer.

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

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. DELPHINULA GREENOCK N^o 20861

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 plans. 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 in a vessel Classed in the Society's Register Book

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

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

Committee's Minute **GLASGOW** 9 JAN 1940

Assigned **SEE ACCOMPANYING MACHINERY REPORT.**

