

REPORT ON BOILERS.

No. 96399

Received at London Office JUL 6 1938

Date of writing Report 19 When handed in at Local Office 5/7/38 Port of **NEWCASTLE-ON-TYNE**

No. in Reg. Book. Survey held at **Newcastle-on-Tyne.** Date, First Survey **28 May 1937** Last Survey **11 July 1938**

37886 on the **M. V. "DAPHNELLA"** (Number of Visits **1**) Gross **8078** Tons Net **4789**

Master Built at **Two-on-Tyne (Newburn)** By whom built **R.W. Hawthorn Leslie & Co. Ltd** Yard No. **611** When built **1938**

Engines made at **Two-on-Tyne (St Peter)** By whom made **R.W. Hawthorn Leslie & Co. Ltd** Engine No. **3937** When made **1938**

Boilers made at **Two-on-Tyne (St Peter)** By whom made **R.W. Hawthorn Leslie & Co. Ltd** Boiler No. **3937** When made **1938**

Nominal Horse Power **502** Owners **Anglo Saxon Petroleum Co Ltd** Port belonging to **London**

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

Manufacturers of Steel **(Plate) The Steel Company of Scotland (Furnaces) Dightons Ltd** (Letter for Record **S**)

Total Heating Surface of Boilers **2500 sq ft** Is forced draught fitted **Yes** Coal or Oil fired **oil**

No. and Description of Boilers **one, Single Ended** Working Pressure **180 lb/sq in**

Tested by hydraulic pressure to **320 lb/sq in** Date of test **7-1-38** No. of Certificate **754** Can each boiler be worked separately **Yes**

Area of Firegrate in each Boiler **160** No. and Description of safety valves to each boiler **2, Spring loaded**

Area of each set of valves per boiler **16.58 sq in** Pressure to which they are adjusted **180 lb/sq in** Are they fitted with easing gear **Yes**

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler **Yes**

Smallest distance between boilers or uptakes and bunkers or woodwork **Yes** Is oil fuel carried in the double bottom under boilers **Yes**

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

Largest internal dia. of boilers **14'-3 5/8"** Length **11'-6"** Shell plates: Material **Steel** Tensile strength **28-32 tons**

Thickness **1 3/16"** Are the shell plates welded or flanged **neither** Description of riveting: circ. seams **DR. Cap.**

long. seams **T. R. D. B. S.** Diameter of rivet holes in circ. seams **1 1/4"** Pitch of rivets **3 1/2"**

Percentage of strength of circ. end seams **64.2%** Percentage of strength of circ. intermediate seam **8 3/4"**

Percentage of strength of longitudinal joint **85.7%** Working pressure of shell by Rules **193 lb/sq in**

Thickness of butt straps **29 3/32"** No. and Description of Furnaces in each Boiler **3, Corrugated Morrison Section**

Material **Steel** Tensile strength **26-30 tons** Smallest outside diameter **3'-7 1/8"**

Length of plain part **8 7/8"** Thickness of plates **9 1/16"** Description of longitudinal joint **welded**

Dimensions of stiffening rings on furnace or c.c. bottom **none** Working pressure of furnace by Rules **189 lb/sq in**

End plates in steam space: Material **Steel** Tensile strength **26-30 tons** Thickness **1 1/32"** Pitch of stays **21" x 17 3/4"**

How are stays secured **Double nuts** Working pressure by Rules **183 lb/sq in**

Tube plates: Material **Steel** Tensile strength **26-30 tons** Thickness **15 1/16"**

Mean pitch of stay tubes in nests **9 1/4"** Pitch across wide water spaces **13 3/4" x 7 3/4"** Working pressure **242 lb/sq in**

Girders to combustion chamber tops: Material **Steel** Tensile strength **28-32 tons** Depth and thickness of girder **285 lb/sq in**

at centre **10" x 1 1/2"** Length as per Rule **2'-10 1/2"** Distance apart **10"** No. and pitch of stays **7-7-38**

in each **3 @ 8"** Working pressure by Rules **194 lb/sq in** Combustion chamber plates: Material **Steel**

Tensile strength **26-30 tons** Thickness: Sides **45 1/64"** Back **45 1/64"** Top **45 1/64"** Bottom **7 1/8"**

Pitch of stays to ditto: Sides **8" x 8"** Back **8" x 8"** Top **8" x 10"** Are stays fitted with nuts or riveted over **Riveted**

Working pressure by Rules **180 lb/sq in** Front plate at bottom: Material **Steel** Tensile strength **26-30 tons**

Thickness **15 1/16"** Lower back plate: Material **Steel** Tensile strength **26-30 tons** Thickness **27 1/32"**

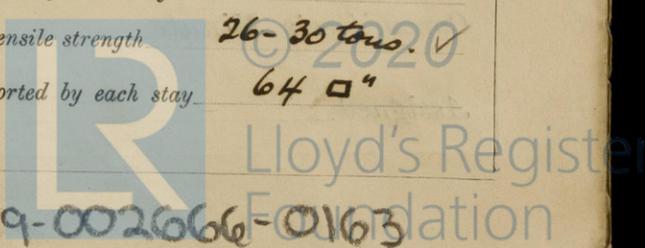
Pitch of stays at wide water space **15" x 8"** Are stays fitted with nuts or riveted over **nuts**

Working Pressure **200 lb/sq in** Main stays: Material **Steel** Tensile strength **28-32 tons**

Diameter **3"** No. of threads per inch **6** Area supported by each stay **372.75 sq in**

Working pressure by Rules **181 lb/sq in** Screw stays: Material **Steel** Tensile strength **26-30 tons**

Diameter **1 1/2" & 1 5/8"** No. of threads per inch **9** Area supported by each stay **64 sq in**



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Working pressure by Rules *196 lb/10"* Are the stays drilled at the outer ends *No.* Margin stays: Diameter *1 3/4"* At turned off part, or Over threads *1 3/4"*
 No. of threads per inch *9.* Area supported by each stay *92 0"* Working pressure by Rules *197 lb/10"*
 Tubes: Material *Steel* External diameter *2 3/4"* Thickness *9/16" + 3/8"* No. of threads per inch *9.*
 Pitch of tubes *4" x 3 7/8"* Working pressure by Rules *Plain 215 lb/10" Stay 205 lb/10"* Manhole compensation: Size of opening in shell plate *21" x 17"* Section of compensating ring *21" x 1 3/16"* No. of rivets and diameter of rivet holes *40 @ 1 1/4"*
 Outer row rivet pitch at ends *8 3/4"* Depth of flange if manhole flanged *3 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
 Internal diameter Working pressure by Rules Thickness of crown No. and diameter of stays
 Inner radius of crown Working pressure by Rules
 How connected to shell Size of doubting 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
 Steel forgings
 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 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 *Yes.*
 R. & W. HAWTHORN (LONDON) LTD. *The foregoing is a correct description,*
R. B. Johnston, Manufacturer.

Dates of Survey *During progress of work in shops - -*
while building *During erection on board vessel - -*
See Weekly Report
 Are the approved plans of boiler and superheater forwarded herewith *17-5-37.*
 (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. *"ANCYLUS" Nux RN# 92146.*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
The boiler has been built under Special Survey in accordance with the Society's Rules & approved plan. The materials & workmanship are sound & good. The boiler was efficiently installed on board and its safety valves adjusted under steam to the approved working pressure.

Survey Fee £ *See*
 Travelling Expenses (if any) £ *Tricky Report*
 When applied for, 10
 When received, 10

L. Pickett.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *APR 8 JUL 1938*
 Assigned *See Nux J.C. 96399*

