

REPORT ON BOILERS.

No. 20610

Received at London Office

AUG 17 1938

Date of writing Report 27.6.38

When handed in at Local Office 10.8.38

Port of Grimsby

No. in Survey held at

Grimsby

Reg. Book.

Date, First Survey 15th February, 1938, Last Survey 10th August 1938

on the

M/S Dorcasia

(Number of Visits ✓)

Gross 8053.30
Net 4767.97

Master _____ Built at P. Glasgow By whom built L. Glasgow L^d Yard No. 908 When built 1938
 Engines made at Grimsby By whom made John & Knecht C^o L^d Engine No. 1715 When made 1938
 Boilers made at ditto By whom made ditto Boiler No. 1715 When made 1938
 Nominal Horse Power - Owners Anglo Saxon Petroleum C^o L^d Port belonging to London

MULTITUBULAR BOILERS - DONKEY.

Manufacturers of Steel Steel C^o of Sullana & Co. Ltd., Scottish Iron, Steel C^o (Letter for Record S)

Total Heating Surface of Boilers 2502 sq ft Is forced draught fitted yes Coal or Oil fired oil

No. and Description of Boilers one Single Ended. Working Pressure 180

Tested by hydraulic pressure to 320 Date of test 3-5-38 No. of Certificate 2150 Can each boiler be worked separately -

Area of Firegrate in each Boiler 16.8 sq ft No. and Description of safety valves to each boiler Double Spring

Area of each set of valves per boiler {per Rule 16.8 sq ft as fitted Pressure to which they are adjusted 185 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 2'-6" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 14'-0" Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 14'-6" Length 11'-6" Shell plates: Material S Tensile strength 29.33

Thickness 1 5/32" Are the shell plates welded or flanged - Description of riveting: circ. seams end 3.52 inter. 7.18

long. seams TR. DBS Diameter of rivet holes in {circ. seams 17/32" long. seams 1 7/32" Pitch of rivets {

Percentage of strength of circ. end seams {plate 65.4 rivets 45.3 Percentage of strength of circ. intermediate seam {plate 85.33 rivets 85.75

Percentage of strength of longitudinal joint {plate 85.75 rivets 84.44 Working pressure of shell by Rules 180

Thickness of butt straps {outer 7/8" inner 1" No. and Description of Furnaces in each Boiler 3 Deighton

Material S Tensile strength 26.30 Smallest outside diameter 3-7 1/8"

Length of plain part {top - bottom - Thickness of plates {crown 9/16" bottom 9/16" Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules 189.

End plates in steam space: Material S Tensile strength 26.30 Thickness 1 9/32" Pitch of stays 21.19 1/2"

How are stays secured D.N. Washburn Working pressure by Rules 184. 15 1/16"

Tube plates: Material {front S back S Tensile strength { 26.30 Thickness { 11/16"

Mean pitch of stay tubes in nests 9.375" Pitch across wide water spaces 13 1/2" Working pressure {front 225 back 191

Girders to combustion chamber tops: Material S Tensile strength 29.33 Depth and thickness of girder

at centre 8 1/2 x 3 1/4 (2) Length as per Rule 2. 4 5/8" Distance apart 9" No. and pitch of stays

in each 3 at 4 1/2" Working pressure by Rules 193 Combustion chamber plates: Material S

Tensile strength 26.30 Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 7/8"

Pitch of stays to ditto: Sides 4 1/2 x 7 1/16" Back 4 1/16 x 4 1/2" Top 9 x 4 1/2" Are stays fitted with nuts or riveted over Riveted

Working pressure by Rules 184 Front plate at bottom: Material S Tensile strength 26.30

Thickness 15/16" Lower back plate: Material S Tensile strength 26.30 Thickness 13/16"

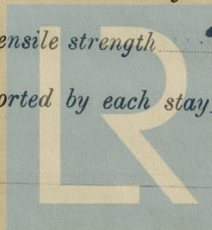
Pitch of stays at wide water space 14" Are stays fitted with nuts or riveted over Mangrove stays, Nutria bottom riveted

Working Pressure 189 Main stays: Material S Tensile strength 26.32

Diameter {At body of stay, or Over threads 3 1/4" No. of threads per inch 6 Area supported by each stay 409.5 sq in

Working pressure by Rules 191 Screw stays: Material S Tensile strength 26.30

Diameter {At turned off part, or Over threads 1 3/8" No. of threads per inch 9 Area supported by each stay 55.7 sq in

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003056-003064-0108

Working pressure by Rules **184** Are the stays drilled at the outer ends **90** Margin stays: Diameter { At turned off part, **1 5/8"** or Over threads
No. of threads per inch **9** Area supported by each stay **80.3 sq"** Working pressure by Rules **189**
Tubes: Material **9100** External diameter { Plain **2 1/2"** Thickness { **9/32"** No. of threads per inch **9**
Pitch of tubes **3 3/4" x 3 3/4"** Working pressure by Rules **210** Manhole compensation: Size of opening in
shell plate **16 1/2" x 20 1/2"** Section of compensating ring **2 1/4" x 2 7/8" x 19/32"** No. of rivets and diameter of rivet holes **38 at 1 5/16"**
Outer row rivet pitch at ends **9 1/4"** Depth of flange if manhole flanged **3 1/4"** Steam Dome: Material
Tensile strength Thickness of shell Description of longitudinal joint
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
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 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
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**

The foregoing is a correct description,
For **JOHN G. KINCAID & CO. LIMITED.**
McCauley Director. Manufacture

Dates { During progress of work in shops - - }
of Survey while building { During erection on board vessel - - - }
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. **M/s 'Davila' Ark Regt No: 20579**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **This boiler has been built under Special Survey, in accordance with the approved plans & the workmanship & material of good quality. Boiler now securely fitted on board.**
This Report accompanies that of the Machinery

Survey Fee **Charged on Machinery Report**
Travelling Expenses (if any) **✓**
When applied for, **19**
When received, **19**

Wm. Gordon-Mitchell
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 16 AUG 1938**

Assigned **SEE ACCOMPANYING MACHINERY REPORT.**