

## REPORT ON BOILERS.

No. 109036.

Date of writing Report

19

When handed in at Local Office

27/12/1941

Port of

NEWCASTLE-ON-TYNE

Received at London Office

31 DEC 1941

No. in Survey held at

Newcastle

Date, First Survey

11 August/41

Last Survey

4 Dec 1941

eg. Book.

on the

M.V. ERODONIA

(Number of Visits 9.)

Tons { Gross  
Net

Master

Built at

By whom built

Yard No.

When built

Engines made at

By whom made

Engine No.

When made

Boilers made at

Newcastle on Tyne

By whom made

R.W. Hawthorn, Leslie &amp; Co

Boiler No.

1436

When made 1941-

N<sup>o</sup> 2.

Nominal Horse Power

198.

Owners

Port belonging to

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Colvilles, L. &amp; Glasgow

(Letter for Record S.)

Total Heating Surface of Boiler

2865 sq ft.

Is forced draught fitted

Yes

Coal or Oil fired

Coal fired

No. and Description of Boiler

One Single ended

Working Pressure

220 lb

Tested by hydraulic pressure to

380 lb

Date of test

4-12-41

No. of Certificate

928.

Can each boiler be worked separately

Area of Firegrate in each Boiler

67.5 sq ft.

No. and Description of safety valves to each boiler

Two 3 1/2" dia Spring loaded

Area of each set of valves per boiler

per Rule 15.42 sq in

as fitted 16.38 "

Pressure to which they are adjusted

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

Largest internal dia. of boilers

15' 1 1/16"

Length

12' 4 1/2" overall

Shell plates: Material

S.

Tensile strength

29 &amp; 33 tons

Thickness

1 1/2"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end Double riv. overlap

Long. seams

T.R. Double butt straps

Diameter of rivet holes in

circ. seams 1 9/16"

long. seams 1 9/16"

Pitch of rivets

4 1/2"

Percentage of strength of circ. end seams

plate 62.2

rivets 48.2

Percentage of strength of circ. intermediate seam

plate None

Percentage of strength of longitudinal joint

plate 85.5

rivets 86.0

combined 88.2

Working pressure of shell by Rules

220 lbs. per sq in.

Thickness of butt straps

outer 1 3/16"

inner 1 5/16"

No. and Description of Furnaces in each Boiler

3 Deighton Corrugated Type

Material

S.

Tensile strength

26 &amp; 30 tons

Smallest outside diameter

3' 1 1/4"

Length of plain part

top

Thickness of plates

crown 47/64

bottom 64

Description of longitudinal joint

Fire welded

Dimensions of stiffening rings on furnace or c.c. bottom

None

Working pressure of furnace by Rules

228 lb.

End plates in steam space: Material

S.

Tensile strength

26 &amp; 30 tons

Thickness

1 1/2"

Pitch of stays

23 x 20 1/16" max

How are stays secured

Nuts inside &amp; outside

Working pressure by Rules

220 lb

24 1/2 x 19 5/8" max

Tube plates: Material

front S.

back S.

Tensile strength

29 &amp; 33 tons

Thickness

15/16" 7/8"

Lean pitch of stay tubes in nests

8.7"

Pitch across wide water spaces

14 1/2"

Working pressure

front 227 lb.

back 220 lb

Girders to combustion chamber tops: Material

S.

Tensile strength

29 &amp; 33 tons

Depth and thickness of girder

At centre

1 1/2" x 1" x two

Length as per Rule

3' 10 1/2"

Distance apart

8 1/2"

No. and pitch of stays

In each

3 @ 11 1/8"

Working pressure by Rules

232 lb

Combustion chamber plates: Material

S.

Tensile strength

26 &amp; 30 tons

Thickness: Sides

5 1/64"

Back

25/32"

Top

5 1/64"

Bottom

29/32"

Pitch of stays to ditto: Sides

11 1/8" x 8 7/8" max

Back

10 1/2" x 7 3/4"

Top

11 1/8" x 8 1/2"

Are stays fitted with nuts or riveted over

with nuts.

Working pressure by Rules

221 lb min.

Front plate at bottom: Material

S.

Tensile strength

26 &amp; 30 tons

Thickness

15/16"

Lower back plate: Material

S.

Tensile strength

26 &amp; 30 tons

Thickness

3 1/32"

Pitch of stays at wide water space

15 1/8" max.

Are stays fitted with nuts or riveted over

with nuts.

Working Pressure

228 lb

Main stays: Material

S.

Tensile strength

28 &amp; 32 tons

Diameter

At body of stay, 3 1/2"

Over threads, 3 3/4"

No. of threads per inch

6.

Area supported by each stay

500 sq in

Working pressure by Rules

233 lb

Screw stays: Material

S.

Tensile strength

26 &amp; 30 tons

Diameter

At turned off part, 1 3/4"

Over threads, 1 3/4"

back 1 3/8" top 2" side

No. of threads per inch

9.

Area supported by each stay

81.5 sq in 1 3/4"

94.5 sq in 1 7/8"

98.8 sq in 2"



Working pressure by Rules  $223\frac{1}{2}$  min. Are the stays drilled at the outer ends *No* Margin stays: Diameter { *At turned off part, 2 1/2* Over threads }  
No. of threads per inch *9* Area supported by each stay *123 sq in* Working pressure by Rules *231 lbs*  
Tubes: Material *S.* External diameter { *Plain 2 1/2* Stay } Thickness *8 L 55* No. of threads per inch *9*  
Pitch of tubes *3 3/4 x 3 3/4* Working pressure by Rules *237 1/2* min Manhole compensation: Size of opening in  
shell plate *None (manhole in back end plate)* Section of compensating ring *✓* No. of rivets and diameter of rivet holes *✓*

Outer row rivet pitch at ends *✓* Depth of flange if manhole flanged *✓* 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 { *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 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*

The foregoing is a correct description,

Manufacturer.

Dates of Survey { During progress of work in shops - - - *Aug. 11. 20. Sep. 2. Oct. 8. 15. 30. 31.* Are the approved plans of boiler and superheater forwarded herewith *17/10/40*  
while building { During erection on board vessel - - - *Nov. 28. Dec. 4.* (If not state date of approval.)  
Total No. of visits *9.*

Is this Boiler a duplicate of a previous case *Yes* If so, state Vessel's name and Report No.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

*This Boiler has been constructed under special survey in accordance with the approved plan and the Society's Rules, and the materials and workmanship are good*

*It is not yet known to which ship this boiler will be fitted*

*27/12/41*

Survey Fee *+25%* £ *23* : *19* : *6* When applied for, *19*  
Travelling Expenses (if any) £ : : When received, *19*

29 DEC 1941

*Calcutt.*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUES. 28 MAR 1944

Assigned

*See J. No 101858*



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