

# REPORT ON BOILERS.

No. 100.491

Received at London Office

26 JUN 1942

ate of writing Report

When handed in at Local Office

22 JUN 1942

Port of **NEWCASTLE-ON-TYNE**

No. in Survey held at

Newcastle on Tyne

Date, First Survey

7 Jan 1941

Last Survey

27 May 1942

1942

Book.

(Number of Visits)

on the M.V. "NICANIA"

Gross 8179  
Net 4767

Master

Built at Newcastle (Hebburn) By whom built

R.W. Hawthorn, Leslie & Co.

Yard No. 648

When built 1942-

Engines made at

Newcastle (St. Peter's)

By whom made

ditto.

Engine No. 3975

When made 1942-

Boilers made at

ditto.

By whom made

ditto.

Boiler No. 3975

When made 1942-

Indicated Horse Power

233

Owners

Port belonging to

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

Manufacturers of Steel

The Steel Company of Scotland.

(Letter for Record

S.

Total Heating Surface of Boilers

3500 sq. ft.

Is forced draught fitted

Yes

Coal or Oil fired

Oil fired

No. and Description of Boilers

One Single Ended Multitubular

Working Pressure

180 lbs/sq. in.

Tested by hydraulic pressure to

320 lb

Date of test

8.1.42

No. of Certificate

935

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

Oil fired

No. and Description of safety valves to each boiler

22.44 sq. ft.

Pressure to which they are adjusted

180 lb

Are they fitted with easing gear

Yes

Area of each set of valves per boiler

per Rule

22.44 sq. ft.

as fitted

25.12 "

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

No main Boiler.

Smallest distance between boilers or uptakes and ~~timbers~~ or woodwork

tim deck

3' 4"

Is oil fuel carried in the double bottom under boilers

No.

Smallest distance between shell of boiler and tank top plating

3' 4"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

16' 0 3/8"

Length

12' 6" mean

Shell plates: Material

S.

Tensile strength

28 & 32 tons

Thickness

1 5/16"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

DR. lap.

g. seams

T.R. Old But strap.

Diameter of rivet holes in

circ. seams

1 3/8"

Pitch of rivets

3.75"

3.95"

Percentage of strength of circ. end seams

plate

65.2

rivets

47.1

Percentage of strength of circ. intermediate seam

plate

85.3

rivets

93.0

combined

89.3

Percentage of strength of longitudinal joint

plate

85.3

rivets

93.0

combined

89.3

Working pressure of shell by Rules

180.6 lbs.

Thickness of butt straps

outer

1"

inner

1 1/8"

No. and Description of Furnaces in each Boiler

3 Morrison Corrugated.

Material

S.

Tensile strength

26 & 30 tons

Smallest outside diameter

4' 0 1/2"

Length of plain part

top

1"

bottom

Thickness of plates

crown

5/8"

bottom

Description of longitudinal joint

Fire welded

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

None

Working pressure of furnace by Rules

189 lbs.

Plates in steam space: Material

S.

Tensile strength

26 & 30 tons

Thickness

1 1/2"

Pitch of stays

22" x 20 1/4"

How are stays secured

Nuts inside & outside

Working pressure by Rules

185 lbs.

End plates: Material

front

S.

back

Tensile strength

26 & 30 tons

Thickness

1 1/8"

Working pressure

200 lbs.

Span pitch of stay tubes in nests

9 7/8"

Pitch across wide water spaces

13 5/4" x 7 3/4"

Working pressure

front

243 lbs.

Barriers to combustion chamber tops: Material

S.

Tensile strength

28 & 32 tons

Depth and thickness of girder

10 1/2"

Centre

10 5/4" x 7 3/4" x two

Length as per Rule

37 1/2" - 64"

Distance apart

10 1/2"

Each

3 @ 8 3/4"

Working pressure by Rules

182.5 lbs.

Combustion chamber plates: Material

S.

Tensile strength

26 & 30 tons

Thickness: Sides

45/64"

Back

45/64"

Top

45/64"

Bottom

1"

Pitch of stays to ditto: Sides

8 3/4" x 7"

Back

8 1/2" x 7 1/6"

Top

10 1/2" x 8 3/4"

Are stays fitted with nuts or riveted over

back marginal stays.

The remainder are riveted.

Working pressure by Rules

182 lbs.

Front plate at bottom: Material

S.

Tensile strength

26 & 30 tons

Thickness

27/32"

Thickness

1"

Lower back plate: Material

S.

Tensile strength

26 & 30 tons

Thickness

27/32"

Pitch of stays at wide water space

15" x 8 1/2"

Are stays fitted with nuts or riveted over

further with nuts.

Working Pressure

198 lbs.

Main stays: Material

S.

Tensile strength

28 & 32 tons

Working pressure by Rules

206 lbs.

Screw stays: Material

S.

Tensile strength

26 & 30 tons

Working pressure by Rules

182 lbs.

Main stays: Material

S.

Tensile strength

28 & 32 tons

Working pressure by Rules

206 lbs.

Screw stays: Material

S.

Tensile strength

26 & 30 tons

Working pressure by Rules

206 lbs.

Screw stays: Material

S.

Tensile strength

26 & 30 tons

Working pressure by Rules

206 lbs.

Screw stays: Material

S.

Tensile strength

26 & 30 tons

Working pressure by Rules

206 lbs.

Screw stays: Material

S.

Tensile strength

26 & 30 tons

Working pressure by Rules

206 lbs.

Screw stays: Material

S.

Tensile strength

26 & 30 tons

Working pressure by Rules

206 lbs.

Screw stays: Material

S.

Tensile strength

26 & 30 tons



Working pressure by Rules *197 1/2 lbs* Are the stays drilled at the outer ends *No* Margin stays: Diameter *1 3/4"*  
 No. of threads per inch *9* Area supported by each stay *93.5 sq in* Working pressure by Rules *194 lbs*  
 Tubes: Material *Lap welded W.I.* External diameter *2 3/4"* Thickness *9/16" + 5/16"* No. of threads per inch *9*  
 Pitch of tubes *4" x 3 7/8"* Working pressure by Rules *214 lbs* Manhole compensation: Size of opening  
 shell plate *21" x 17"* Section of compensating ring *25" x 1 5/16"* No. of rivets and diameter of rivet holes *36 2 1/8" dia*  
 Outer row rivet pitch at ends *10"* Depth of flange if manhole flanged *4 1/2"* Steam Dome: *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  
 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 *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  
 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  
 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,  
*R. & W. HAINES & CO. LIMITED*  
*R. B. Johnson* Manufacture

Dates of Survey *During progress of work in shops - - -* Are the approved plans of boiler and superheater forwarded herewith *17/1/41*  
*while building* *During erection on board vessel - - -* *See Machinery Report* (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. *Diploton. H/L yard No 632*  
*See Rpt 99860.*

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

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

*The Boiler has been efficiently installed on board the vessel, tested under working conditions and found satisfactory.*

*See also Machinery Rpt 4.*

Survey Fee ... £ *See Machinery Rpt* When applied for, 19  
 Travelling Expenses (if any) £ : : When received, 19

*R. A. Latt*

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

FRI. 3 JUL 1942

Assigned

*See Nwc. 4.6. 100491*



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