

REPORT ON BOILERS.

No. 100.491

Received at London Office

26 JUN 1942

Date 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

Book.

(Number of Visits)

on the M.V. "NICANIA"

Gross 8179
Net 4767
Tons

Master

Built at Newcastle (Hebburn) By whom built R+W. Hawthorn, Leake & 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

Type and Description of Boilers

One Single Ended Multitubular

Working Pressure

180 lbs/sq. in.

Tested by hydraulic pressure to

320 lbs

Date of test

8.1.42

No. of Certificate

935

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

1 oil fired

No. and Description of safety valves to each boiler

Two of 4" dia Spring loaded

Area of each set of valves per boiler

per Rule 22.44 sq. in.
as fitted 25.12 "

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

No main Boiler.

Smallest distance between boilers or uptakes and woodwork

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"

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

DR. lap.

Pitch of rivets

T.R. DR. Butt straps.

Diameter of rivet holes in

circ. seams } 1 3/8"

long. seams }

Pitch of rivets

3.95"

3.95"

Percentage of strength of circ. end seams

plate 65.2
rivets 47.1

Percentage of strength of circ. intermediate seam

plate
rivets

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
bottom

Thickness of plates

5/8"

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.

Stays and 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.

Front and back plates: Material

front S.
back S.

Tensile strength

26 & 30 tons

Thickness

1 3/8"

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 200 lbs
back 243 lbs.

Stays and girders to combustion chamber tops: Material

S.

Tensile strength

28 & 32 tons

Depth and thickness of girder

Centre

10 5/4" x 7 1/2" x two

Length as per Rule

37 1/2" - 1/4"

Distance apart

10 1/2"

No. and pitch of stays

Each

3 @ 8 3/4"

Working pressure by Rules

182.5 lbs

Combustion chamber plates: Material

S.

Tensile strength

26 & 30 tons

Thickness: Sides

4 5/64"

Back

4 5/64"

Top

4 5/64"

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

nuts on top of stays and on 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

1"

Lower back plate: Material

S.

Tensile strength

26 & 30 tons

Thickness

2 1/32"

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

No. of threads per inch

6

Area supported by each stay

4.50 sq. in.

Working pressure by Rules

206 lbs

Screw stays: Material

S.

Tensile strength

26 & 30 tons

Working pressure by Rules

206 lbs

No. of threads per inch

9

Area supported by each stay

63.5 + 92 sq. in.

Working pressure by Rules

206 lbs

No. of threads per inch

9

Area supported by each stay

63.5 + 92 sq. in.

Working pressure by Rules

206 lbs

No. of threads per inch

9

Area supported by each stay

63.5 + 92 sq. in.

Working pressure by Rules *197 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 kg. 3/8" + 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 of 1 7/8" 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 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
 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. HANCOCK & CO. LIMITED
R. B. Johnson Manufacturer

Dates of Survey *During progress of work in shops - - -* Are the approved plans of boiler and superheater forwarded herewith *17/1/42*
 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. *Diplodon. W.L. yard No 632
 Reg No 396
 No 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 Report 4.

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

R. Watt
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute *FRI. 3 JUL 1942*
 Assigned *See NWC. 2.6. 100491*

