

# REPORT ON BOILERS.

No. 88674

19.23.

22.25.

Date of writing Report

19 When handed in at Local Office

30 MAY 1932

Received at London Office

31 MAY 1932

Port of Newcastle-on-Tyne

No. in Survey held at

Wallsend-on-Tyne

Date, First Survey

13 Nov/31

Last Survey

27 May 1932

g. Book.

on the

New Steel S.S. Harpation

(Number of Visits)

Gross

Tons

Master

Built at Hebburn

By whom built

Hawthorn Leslie & Co

Yard No. 585

When built 1932

Engines made at

Wallsend

By whom made

North Eastern Mar & C. Co. Ltd.

Engine No. 2789

When made 1932

Boilers made at

Wallsend

By whom made

North Eastern Mar & C. Co. Ltd.

Boiler No. 2789

When made 1932

Nominal Horse Power

482

Owners

National & Coy Ltd

Port belonging to

London

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The Steel Company of Scotland Ltd.

(Letter for Record)

107

Total Heating Surface of Boilers

4952

See plans forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

Two single ended

Working Pressure

220 lbs

Tested by hydraulic pressure to

380

Date of test

15-3-32

No. of Certificate

592

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

46 3/4

No. and Description of safety valves to each boiler

Two spring loaded

Area of each set of valves per boiler

13.2

Pressure to which they are adjusted

225 lbs

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

3'-5"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-8"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

15'-3 1/8"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

29 to 33 tons

Thickness

1 1/8"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end D.R

Long. seams

T.R.D.B.S.

Diameter of rivet holes in

1 1/2"

Pitch of rivets

4 1/4"

Percentage of strength of circ. end seams

64.4

Percentage of strength of circ. intermediate seam

44.9

Percentage of strength of longitudinal joint

85.54

Working pressure of shell by Rules

222 lbs

Thickness of butt straps

1 1/8"

No. and Description of Furnaces in each Boiler

3 corrugated

Material

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

3'-8 3/4"

Length of plain part

3/4"

Thickness of plates

3/4"

Description of longitudinal joint

weld.

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

Working pressure of furnace by Rules

25 1/2 lbs

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 1/2"

Pitch of stays

1'-10 x 1'-8 3/4"

How are stays secured

double nuts

Working pressure by Rules

222 lbs

Tube plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness

3/4"

Mean pitch of stay tubes in nests

8 1/2"

Pitch across wide water spaces

1 1/4" x 8 1/2"

Working pressure

front 235 back 218.3

Girders to combustion chamber tops: Material

Steel

Tensile strength

29 to 33 tons

Depth and thickness of girder

at centre

2 @ 10 1/4" x 1 1/8"

Length as per Rule

2'-10"

Distance apart

11"

No. and pitch of stays

in each

3 @ 1 1/8"

Working pressure by Rules

229

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

2 1/2"

Back

2 1/2"

Top

2 1/2"

Bottom

2 1/2"

Pitch of stays to ditto: Sides

10 3/16" x 9 1/8"

Back

9 1/16" x 9 3/4"

Top

11" x 1 1/8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

222 lbs

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons

Thickness

3 1/8"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons

Thickness

2 1/2"

Pitch of stays at wide water space

1 1/4" x 9 3/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

225 lbs

Main stays: Material

Steel

Tensile strength

28 to 32 tons

Diameter

3 3/8"

No. of threads per inch

6

Area supported by each stay

456.5"

Working pressure by Rules

23 1/4"

Screw stays: Material

W Iron

Tensile strength

21 1/2 tons min.

Diameter

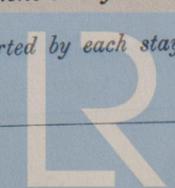
2"

No. of threads per inch

9

Area supported by each stay

9 1/2"



Lloyd's Register  
No. 42-0129

Working pressure by Rules 255 lbs. Are the stays drilled at the outer ends no Margin stays: Diameter  At turned off part,  or  Over threads 2 1/4"

No. of threads per inch 9 Area supported by each stay 118.25 Working pressure by Rules 255 lbs.

Tubes: Material S.D. Steel External diameter  Plain 3" Thickness  8 L.S.G.  4 2/8" No. of threads per inch 9

Pitch of tubes 1 1/4" x 1 1/4" Working pressure by Rules W.W.S. 243 lbs. Manhole compensation: Size of opening 1 1/2"

shell plate 2 1/2" x 2 1/2" Section of compensating ring 25" x 1 1/2" No. of rivets and diameter of rivet holes 34 @ 1 9/16"

Outer row rivet pitch at ends 10 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  Plate  Rivets

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 North Eastern smoke tube Manufacturers of Stewart & Dyke Ltd Tubes Stewart & Dyke Ltd

Number of elements 114 Material of tubes S.D. Steel Internal diameter and thickness of tubes 1 1/4" x 1/8" Steel castings The Birmingham Steel Coy Ltd

Material of headers W.P. Steel Tensile strength 26 to 30 tons Thickness 1/8" Can the superheater be shut off  the boiler be worked separately no Is a safety valve fitted to every part of the superheater which can be shut off from the boiler  yes.

Area of each safety valve 3.1416" Are the safety valves fitted with easing gear  yes Working pressure as per Rules 220 lbs Pressure to which the safety valves are adjusted 225 lbs Hydraulic test pressure 550 lbs

tubes 1500 lbs castings 660 lbs and after assembly in place 550 lbs Are drain cocks or valves fitted to free the superheater from water where necessary  yes.

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with  yes.

The foregoing is a correct description,  
**THE NORTH EASTERN MARINE ENGINEERING CO., LTD.**  
 Manufacturer  
W. Campbell Allen

Dates of Survey  During progress of work in shops --  while building  During erection on board vessel -- See inquiry 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 no If so, state Vessel's name and Report No.

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)  
These Boilers have been built under Special Survey. Materials & Workmanship good. Hydraulic tests satisfactory.

Survey Fee ... .. £ : ✓ : } When applied for, 19

Travelling Expenses (if any) £ : ✓ : } When received, 19

William Butler  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 3 JUN 1932

Assigned See F.E. Rpt.

