

## REPORT ON BOILERS.

No. 84941

Received at London Office

12 NOV 1929

Date of writing Report

1929

When handed in at Local Office

11/11/1929 Port of

NEWCASTLE-ON-TYNE

No. in Survey held at

Wallsend.

Date, First Survey

8 May

Last Survey

6 Nov

1929

in Reg. Book.

(Number of Visits)

Gross

4409

Tons

Net

2723

on the

New Steel S.S. "Synemouth"

Master

Built at

Willington Quay

By whom built

Northumberland Works

Yard No.

When built

1929

Engines made at

Wallsend

By whom made

North Eastern Marine &amp; Cy Ltd

Engine No.

When made

1929

Boilers made at

Wallsend

By whom made

North Eastern Marine &amp; Cy Ltd

Boiler No.

When made

1929

Nominal Horse Power

354

Owners

Port belonging to

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

Manufacturers of Steel

Appleby Iron Works &amp; The Steel Company of Scotland.

(Letter for Record)

S

Total Heating Surface of Boilers

1260 sq ft

Is forced draught fitted

No

Coal or Oil fired

Coal

No. and Description of Boilers

One single ended

Working Pressure

225 lbs.

Tested by hydraulic pressure to

388 lbs

Date of test

22-8-29

No. of Certificate

349

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

34 sq ft

No. and Description of safety valves to each boiler

Two spring loaded

Area of each set of valves per boiler

per Rule

6.54

Pressure to which they are adjusted

230 lbs

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

4'-0"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-4"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

12'-3 3/4"

Length

10'-0"

Shell plates: Material

Steel

Tensile strength

29 to 33 tons

Thickness

1 1/2"

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

circ. seams

1 1/4"

Pitch of rivets

3 3/4"

inter.

8 3/4"

Percentage of strength of circ. end seams

plate

rivets

66.45

Percentage of strength of circ. intermediate seam

plate

rivets

✓

Percentage of strength of longitudinal joint

plate

rivets

85.4

combined

88.5

Working pressure of shell by Rules

226.1 lbs

Thickness of butt straps

outer

1 1/2"

No. and Description of Furnaces in each Boiler

Two corrugated (Brighton)

Material

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

3'-9 3/4"

Length of plain part

top

bottom

Thickness of plates

crown

23/32"

Description of longitudinal joint

weld

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

none

Working pressure of furnace by Rules

230.5 lbs.

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 1/2"

Pitch of stays

2'-2" x 1'-3"

How are stays secured

Nuts

Working pressure by Rules

225 lbs

Tube plates: Material

front

back

Steel

Tensile strength

26 to 30 tons

Thickness

3/4"

Mean pitch of stay tubes in nests

8 1/8"

Pitch across wide water spaces

14 1/2" x 4 1/8"

Working pressure

front

23 1/2 lbs

back

25 1/2 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

29 to 33 tons

Depth and thickness of girder

at centre

2 @ 24" x 8 1/4"

Length as per Rule

2'-4"

Distance apart

8 1/4" x 9 7/8"

No. and pitch of stays

in each

2 @ 8 1/4"

Working pressure by Rules

236 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

23/32"

Back

23/32"

Top

23/32"

Bottom

1 5/16"

Pitch of stays to ditto: Sides

8 1/4" x 9 7/8"

Back

8 1/4" x 9 7/8"

Top

8 1/4" x 9 7/8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

226 lbs

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 3/8"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1"

Pitch of stays at wide water space

18" x 6"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

229 lbs

Main stays: Material

Steel

Tensile strength

28 to 32 tons

Diameter: At body of stay,

3 1/4"

No. of threads per inch

6

Area supported by each stay

390 sq in

Working pressure by Rules

234.5 lbs

Screw stays: Material

Steel

Tensile strength

26 to 30 tons

Diameter: At turned off part,

3 1/4"

No. of threads per inch

9

Area supported by each stay

49.3



Working pressure by Rules 225 lbs Are the stays drilled at the outer ends no Margin stays: Diameter 2" At turned off part, or Over threads  
 No. of threads per inch 9 Area supported by each stay 99.5 sq" Working pressure by Rules 225 lbs  
 Tubes: Material Wrought Iron External diameter 3 1/4" Thickness 1/4" No. of threads per inch 9  
 Pitch of tubes 4 1/2" x 4 3/8" Working pressure by Rules 225 lbs Manhole compensation: Size of opening in shell plate 1-8 1/16" x 1-4 1/16" Section of compensating ring 12" x 1 1/2" No. of rivets and diameter of rivet holes 32 @ 1 1/16"  
 Outer row rivet pitch at ends 10" Depth of flange if manhole flanged 4" 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 Kort Eastern Schmidt type Tubes Yates Ltd Manufacturers of Yates Ltd  
 Number of elements 24 Material of tubes S.D. steel Steel castings Yardingham Steel Coy  
 Material of headers Wrought steel Tensile strength 36 & 30 tons Thickness 1" Can the superheater be shut off and 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 225 lbs  
 Pressure to which the safety valves are adjusted 230 lbs Hydraulic test pressure: tubes 1500 lbs castings & fittings 15 lbs and after assembly in place 500 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 NORTH-EASTERN MARINE ENGINEERING CO., LTD.  
 The foregoing is a correct description,  
 per [Signature] Manufacturer.  
 SECRETARY

Dates of Survey See index Report Are the approved plans of boiler and superheater forwarded herewith yes  
(If not state date of approval.)  
 Total No. of visits \_\_\_\_\_

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
This Boiler has been built under special survey. Materials & workmanship good. Hydraulic test satisfactory. It is securely fixed in the vessel & has been examined under steam & safety valves adjusted.

Survey Fee ... £ : : When applied for, 192  
 Travelling Expenses (if any) £ : : When received, 192

William P. Bates  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 15 NOV 1929  
 Assigned See Report attached