

# REPORT ON BOILERS.

No. 77989

Received at London Office

IN 21 1924

Date of writing Report

192

When handed in at Local Office

20/6/1924

Port of

NEWCASTLE-ON-TYNE

No. in Survey held at

Newcastle

Date, First Survey

27 Feb 1924

Last Survey

17 June 1924

g. Book.

(Number of Visits —)

Gross 1740

11470 on the

Steel &

WOODCOTE

Tons Net 720

Master

Built at Bunkland

By whom built Bunkland L.B. Co. Ltd.

Yard No. 131

When built 1924

Engines made at

Newcastle

By whom made North Eastern Marine Engineering Co. Ltd.

Engine No. 2567

When made 1924

Boilers made at

Newcastle

By whom made North Eastern Marine Engineering Co. Ltd.

Boiler No. 2567

When made 1924

Nominal Horse Power

164

Owners

Jas Co.

Port belonging to

London

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

Manufacturers of Steel

Spencer & Sons Ltd.

St. John's & Sons Ltd.

(Letter for Record S.)

Total Heating Surface of Boilers

2368 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

Coal

No. and Description of Boilers

One single-end cylindrical multitubular

Working Pressure

180 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

21 May 1924

No. of Certificate

9824

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

56 sq ft

No. and Description of safety valves to each boiler

Two Spring-loaded

Area of each set of valves per boiler

per Rule 15.1 sq ft

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

Yes

Smallest distance between boilers

on uptakes and bunkers or woodwork

14 in

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and

bulkhead or tank top plating

24 in

Is the bottom of the boiler insulated

No

Largest internal dia. of boilers

14' 6 7/8 in

Length

11' 6 in

Shell plates: Material

Steel

Tensile strength

28/32 tons

Thickness

1 3/16 in

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

Weld

Long. seams

Interlocked

A.B.S.

Diameter of rivet holes in

circ. seams

1 3/4 in

Pitch of rivets

3 3/4 in

Percentage of strength of circ. end seams

plate

66.75

rivets

45.2

Percentage of strength of circ. intermediate seam

plate

Weld

Percentage of strength of longitudinal joint

plate

85.71

rivets

91

combined

89.6

Working pressure of shell by Rules

180 lbs

Thickness of butt straps

outer

1 5/16 in

inner

1 1/16 in

No. and Description of Furnaces in each Boiler

Three Deighton

Material

Steel

Tensile strength

26/30 tons

Smallest outside diameter

41 7/16 in

Length of plain part

top

bottom

Thickness of plates

crown

7 1/32 in

Description of longitudinal joint

Weld

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

Working pressure of furnace by Rules

186 lbs

End plates in steam space: Material

Steel

Tensile strength

26/30 tons

Thickness

1 13/32 in

Pitch of stays

25 1/2 x 22 1/4 in

How are stays secured

Double nuts & washers 3 1/2 in

Working pressure by Rules

181 lbs

Tube plates: Material

front

back

Steel

Tensile strength

26/30 tons

Thickness

3/4 in

Mean pitch of stay tubes in nests

7 1/2 in

Pitch across wide water spaces

14 1/2 x 7 1/2 in

Working pressure

front

198 lbs

back

356 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

26/30 tons

Depth and thickness of girder

at centre

8 1/2 x 1 1/2 in

Length as per Rule

30 in

Distance apart

10 1/4 in

No. and pitch of stays

in each

2 - 9 3/4 in

Working pressure by Rules

207 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons

Thickness: Sides

23/32 in

Back

3/4 in

Top

23/32 in

Bottom

1 in

Pitch of stays to ditto: Sides

10 1/4 x 9 3/4 in

Back

10 1/4 x 9 1/4 in

Top

10 1/4 x 9 3/4 in

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

181 lbs

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons

Thickness

19/16 in

Lower back plate: Material

Steel

Tensile strength

26/30 tons

Thickness

7/8 in

Pitch of stays at wide water space

14 1/2 x 10 1/16 in

Are stays fitted with nuts or riveted over

nuts

Working Pressure

193 lbs

Main stays: Material

Steel

Tensile strength

28/32 tons

Diameter

At body of stay,

3 1/2 in

No. of threads per inch

Six

Area supported by each stay

567.5 sq in

Over threads

Working pressure by Rules

190 lbs

Screw stays: Material

Steel

Tensile strength

26/30 tons

Diameter

At turned off part,

1 3/4 in

No. of threads per inch

Nine

Area supported by each stay

98.75 sq in

Over threads



Working pressure by Rules 1844 1/2 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 2"  
 No. of threads per inch nine Area supported by each stay 126750" Working pressure by Rules 195 1/2  
 Tubes: Material Lion External diameter { Plain 2 1/2" Thickness { 8.135 No. of threads per inch nine  
 Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 250 1/2 Manhole compensation: Size of opening in  
 2nd plate Flanged 16"x12" Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓  
 Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 4 1/4" Steam Dome: Material Amc  
 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 none Manufacturers of { Tubes ✓  
 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 ✓, 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 23 inclusive for boilers been complied with Yes

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

Dates of Survey { During progress of work in shops - - See Machinery Report Are the approved plans of boiler and superheater forwarded herewith  
 while building { During erection on board vessel - - ✓ (If not state date of approval.)  
 Total No. of visits ✓

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
This Boiler was constructed under Special Survey. The materials & workmanship are  
sound and good. It satisfactorily withstood a hydraulic pressure test, was efficiently  
installed on board the vessel and the safety valves were adjusted under steam.  
In our opinion the vessel is eligible for classification

Survey Fee ... .. £ 100 : When applied for, 192  
 Travelling Expenses (if any) £ 100 : When received, 192

See Rpt  
R. Lee Amess. L.R. Home.  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 24 JUN 1924  
 Assigned ✓