

## REPORT ON BOILERS.

No. 32228

Date of writing Report

192

When handed in at Local Office

2 NOV. 1937

Received at London Office

NOV 3 1937

Port of

SUNDERLAND.

No. in Survey held at  
Reg. Book.

SUNDERLAND.

Date, First Survey

Last Survey

Oct 30 1937

on the

GLYNWOOD

(Number of Visits)

Gross  
Tons

1177

Net  
659

Master

Built at Sunderland

By whom built

A.P. Austin &amp; Son, Ltd. Yard No. 344

When built

1937

Engines made at

Sunderland

By whom made

N.E. Marine Eng. Co. Ltd.

Engine No. 2885

When made

1937

Boilers made at

Sunderland

By whom made

N.E. Marine Eng. Co. Ltd.

Boiler No. 2885

When made

1937

Nominal Horse Power

149

Owners

W. France &amp; Son, Ltd.

Port belonging to

London

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Company of Scotland.

(Letter for Record)

S

Total Heating Surface of Boilers

2180 sq

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

Two, cylindrical multitubular

Working Pressure

220 lbs.

Tested by hydraulic pressure to

380 lbs

Date of test

8/7/37

No. of Certificate

4235/6

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

19.12 sq

No. and Description of safety valves to each boiler

Two, direct spring

Area of each set of valves per boiler

per Rule 5.89 sq

as fitted

6.28 sq

Pressure to which they are adjusted

220 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

Smallest distance between boilers or uptakes and bunkers or woodwork

2'-0"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-4 1/2"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

10'-9 7/8"

Length

10'-9"

Shell plates: Material

Steel

Tensile strength

29/32 tons/sq

Thickness

1 1/16"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

D.B.L.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 1/8"

long. seams

1 1/8"

Pitch of rivets

3 7/16"

8"

Percentage of strength of circ. end seams

plate

67.2

rivets

43.2

Percentage of strength of circ. intermediate seam

plate

—

rivets

—

Percentage of strength of longitudinal joint

plate

85.93

rivets

86.94

combined

89.25

Working pressure of shell by Rules

223 lbs.

Thickness of butt straps

outer 13/16"

inner 15/16"

No. and Description of Furnaces in each Boiler

Two, corrugated, slight taper, tapered furnace tubes.

Material

Steel

Tensile strength

26/30 tons/sq

Smallest outside diameter

3'-2 1/16"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

19/32"

Description of longitudinal joint

weld

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

Working pressure of furnace by Rules

224 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30 tons/sq

Thickness

1 1/32"

Pitch of stays

15 1/2" x 14"

How are stays secured

double nuts

Working pressure by Rules

225 lbs.

Tube plates: Material

front

Steel

back

Steel

Tensile strength

26/30 tons/sq

Thickness

1 1/32"

13/16"

Mean pitch of stay tubes in nests

10 3/4"

Pitch across wide water spaces

14 1/2" x 9"

Working pressure

front 252 lbs.

back 223 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 tons/sq

Depth and thickness of girder

at centre

8 1/4" x 198"

Length as per Rule

30 1/4"

Distance apart

10 1/4"

No. and pitch of stays

in each

2 &amp; 9 1/2"

Working pressure by Rules

222 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons/sq

Thickness: Sides

25/32"

Back

25/32"

Top

25/32"

Bottom

25/32"

Pitch of stays to ditto: Sides

10 1/4" x 9 1/2"

Back

10 1/4" x 9"

Top

10 1/4" x 9 1/2"

Are stays fitted with nuts or riveted over

nuts fitted.

Working pressure by Rules

221 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons/sq

Thickness

1 1/32"

Lower back plate: Material

Steel

Tensile strength

26/30 tons/sq

Thickness

1 1/32"

Pitch of stays at wide water space

14 1/2" x 9"

Are stays fitted with nuts or riveted over

nuts fitted.

Working Pressure

300 lbs

Main stays: Material

Steel

Tensile strength

28/32 tons/sq

Diameter

At body of stay,

2 3/8"

or Over threads

2 3/4"

No. of threads per inch

6

Area supported by each stay

15 1/2" x 14"

Working pressure by Rules

221 lbs.

Screw stays: Material

Steel

Tensile strength

26/30 tons/sq

Diameter

At turned off part,

1 7/8"

or Over threads

No. of threads per inch

9

Area supported by each stay

10 1/2" x 8 1/4"

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Foundation

W983-0277



Working pressure by Rules 258 lbs Are the stays drilled at the outer ends no Margin stays: Diameter <sup>At turned off part,</sup> 2" or Over threads 2"  
 No. of threads per inch 9 Area supported by each stay 10 1/4" x 9 1/2" Working pressure by Rules 252 lbs.  
 Tubes: Material N.I. External diameter <sup>Plain</sup> 3 3/4" Thickness <sup>Stay</sup> 8 W.C. No. of threads per inch 9  
 Pitch of tubes 4 1/2" x 4 1/2" Working pressure by Rules 226 lbs Manhole compensation: Size of opening in shell plate 16" x 20" Section of compensating ring 2 1/2" x 1 1/8" No. of rivets and diameter of rivet holes 32, 1 1/2"  
 Outer row rivet pitch at ends 9 1/4" Depth of flange if manhole flanged 3 3/4" Steam Dome: Material  
 Tensile strength Thickness of shell Description of longitudinal joint  
 Diameter of rivet holes Pitch of rivets Percentage of strength of joint <sup>Plate</sup>  
 Internal diameter Working pressure by Rules Thickness of crown No. and diameter of <sup>Rivets</sup>  
 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 Smoke tube Manufacturers of <sup>Tubes</sup> Talbot Stead.  
 Number of elements 48 Material of tubes S.D. Steel <sup>Steel castings</sup> Goodingham Steel Co. Ltd.  
 Material of headers Forged steel Tensile strength 26,300 lbs/sq. in. Thickness 1 1/8" Internal diameter and thickness of tubes 15 1/2" 2 1/2"  
 Can the superheater be shut off and the boiler be worked separately yes 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 3.14 sq. in. 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: tubes 1500 lbs castings 660 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 foregoing is a correct description,  
 THE NORTH EASTERN MARINE ENGINEERING CO. LTD.

Manufacturer.

Dates of Survey <sup>During progress of work in shops - -</sup> Please see Mach. Rpt. Are the approved plans of boiler and superheater forwarded herewith Yes  
<sup>while building</sup> <sup>During erection on board vessel - - -</sup> (If not state date of approval.)  
 Total No. of visits

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

The boilers of this vessel has been constructed under special survey and fitted on board in accordance with the approved plans, Secretary's letters and the requirements of the Rules. Workmanship and materials are good.  
 The Boilers have been tried under working conditions with satisfactory results and is eligible, in my opinion, for the classification - for recommendation please see Rpt 4

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

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 9 NOV 1937

Assigned

See Sld J.E. 32228



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