

## REPORT ON BOILERS.

No. 32292

Received at London Office

JAN 27 1938

Date of writing Report

192

When handed in at Local Office

26 JAN. 1938

Port of

SUNDERLAND.

No. in  
Reg. Book.

Survey held at

Sunderland

Date, First Survey

Last Survey 20 Jan 1938

on the

S.S. "MONKWOOD"

(Number of Visits

Gross 1591

Tons Net 922

Master

Built at

Sunderland By whom built H. Austin &amp; Sons Ltd and No. 345 When built 1938

Engines made at

Sunderland By whom made H. S. Marine Eng. Co. Ltd Engine No 2900 When made 1938

Boilers made at

Sunderland By whom made H. S. Marine Eng. Co. Ltd Boiler No 2900 When made 1938

Nominal Horse Power

176

Owners

W. France Fennick &amp; Co Ltd Port belonging to London

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

Manufacturers of Steel

The Steel Company of Scotland

(Letter for Record

S /

Total Heating Surface of Boilers

2570 sq ft

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

3/12/37

No. of Certificate

4248/9

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

25.25 sq ft

No. and Description of safety valves to each boiler

2 direct spring

Area of each set of valves per boiler

(per Rule

6.96 sq ft

(as fitted

7.94 sq ft

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

Smallest distance between boilers or uptakes and bunkers or woodwork

3'-9"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

3'-0"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

11'-9 23/32"

Length

10'-9"

Shell plates: Material

Steel

Tensile strength

29/33 tons/sq in

Thickness

1 9/16"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

D.R.L.

Long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 3/16"

Pitch of rivets

3 1/2"

inter.

8 3/8"

Percentage of strength of circ. end seams

plate

66

rivets

43.8

Percentage of strength of circ. intermediate seam

plate

—

rivets

—

Percentage of strength of longitudinal joint

plate

85.82

rivets

86.24

Working pressure of shell by Rules

220.3 lbs.

Thickness of butt straps

(outer

7/8"

(inner

1"

No. and Description of Furnaces in each Boiler

3 Single ton. Stephen Gundry make.

Material

Steel

Tensile strength

26/30 tons/sq in

Smallest outside diameter

2'-9 25/32"

Length of plain part

(top

—

(bottom

Thickness of plates

(crown

33/64"

(bottom

Description of longitudinal joint

weld.

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

Working pressure of furnace by Rules

220.2 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30 tons/sq in

Thickness

1 1/32"

Pitch of stays

15" x 14.88"

How are stays secured

Double nuts

Working pressure by Rules

221 lbs.

Tube plates: Material

(front

back

Steel

Tensile strength

26/30 tons/sq in

Thickness

1 1/32"

13/16"

Mean pitch of stay tubes in nests

10.36"

Pitch across wide water spaces

14 1/2" x 8 7/8"

Working pressure

(front

254 lbs.

(back

222 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 tons/sq in

Depth and thickness of girder

at centre

8" x 2"

Length as per Rule

31.4"

Distance apart

9 7/8"

No. and pitch of stays

in each

2, 9 7/8"

Working pressure by Rules

228 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons/sq in

Thickness: Sides

25/32"

Back

25/32"

Top

25/32"

Bottom

25/32"

Pitch of stays to ditto: Sides

9 7/8" x 9 7/8"

Back

10" x 8 3/4"

Top

9 7/8" x 9 7/8"

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 in

Thickness

1 1/32"

Pitch of stays at wide water space

14 1/2" x 10"

Are stays fitted with nuts or riveted over

nuts fitted.

Working Pressure

280 lbs.

Main stays: Material

Steel

Tensile strength

28/30 tons/sq in

Diameter

(At body of stay

2 5/8"

(Over threads

3"

No. of threads per inch

6

Area supported by each stay

15" x 14 5/8"

Working pressure by Rules

264 lbs.

Screw stays: Material

Steel

Tensile strength

26/30 tons/sq in

Diameter

(At turned off part,

or

17/8"

(Over threads

No. of threads per inch

9

Area supported by each stay

10" x 8 3/4"

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Working pressure by Rules 243 lbs Are the stays drilled at the outer ends no Margin stays: Diameter <sup>At turned off part,</sup> 2" 42/100"  
No. of threads per inch 9 Area supported by each stay 11 9/16" x 10" Working pressure by Rules 242 lbs  
Tubes: Material Wht. Iron External diameter <sup>Plain</sup> 3 3/4" Thickness <sup>Stay</sup> 3/4" No. of threads per inch 9  
Pitch of tubes 4 3/8" x 4 7/16" Working pressure by Rules 236 lbs Manhole compensation: Size of opening  
shell plate 16" x 20" Section of compensating ring 1' 1 3/4" x 1 3/16" 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  
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 tubes Manufacturers of Stewart & Lloyd, Ltd.  
Number of elements 64 Material of tubes solid drawn steel Internal diameter and thickness of tubes 1 5/16" 2 5/16"  
Material of headers Forged steel Tensile strength 26/30 tons/in<sup>2</sup> Thickness 1/8" 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 1/4 sq" Are the safety valves fitted with easing gear yes Working pressure as per  
Rules 227 lbs Pressure to which the safety valves are adjusted 227 lbs Hydraulic test pressure  
tubes 1500 lbs, castings 660 lbs and after assembly in place 475 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,  
FOR THE NORTH EASTERN MARINE ENGINEERING CO. LTD.

Dates of Survey <sup>During progress of</sup> Please see Rpt 4 Are the approved plans of boiler and superheater forwarded herewith  
<sup>while</sup> --- <sup>(If not state date of approval.)</sup>  
<sup>building</sup> <sup>During erection on</sup> --- Total No. of visits ---  
<sup>board vessel</sup> ---

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

These Boilers have been constructed under Special Survey in accordance  
with the approved plans, Secretary's letters and the requirements  
of the Rules. Workmanship and materials are good.  
For recommendation please see Rpt 4.

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

I. R. Home.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 1 FEB 1938

Assigned See other time Entry Report



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Foundation