

REPORT ON BOILERS.

No. 31961

16 NOV 1936

Received at London Office

Date of writing Report

1936

When handed in at Local Office

11th Nov 1936 Port of SunderlandNo. in Survey held at
Reg. Book.

Sunderland

Date, First Survey

Last Survey Nov. 6 1936

on the

"SPRINGWAY"

(Number of Visits)

Tons

Gross 1178

Net 655

Master

Built at Sunderland

By whom built Messrs Shout, Noddy.

Yard No. 447 When built 1936

Engines made at

Sunderland

By whom made

Messrs. Easton, Mar. Eng. Co. Ltd.

Engine No. 2861 When made 1936

Boilers made at

Sunderland

By whom made

Messrs. Easton, Mar. Eng. Co. Ltd.

Boiler No. 2861 When made 1936

Nominal Horse Power

119.

Owners

Springwell Shipping Co. Ltd. Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Messrs The Steel Company of Scotland

(Letter for Record S.)

Total Heating Surface of Boilers

1820 sq. ft.

Is forced draught fitted

Yes

Coal or Oil fired Coal

No. and Description of Boilers

Two Cylindrical Multitubular type

Working Pressure 200 lbs

Tested by hydraulic pressure to

350 lbs

Date of test

30/9/36

No. of Certificate

4203

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

40.6 sq. ft.

No. and Description of safety valves to each boiler

2 Direct Spring

Area of each set of valves per boiler

(per Rule 5.377 sq. ft.)

(as fitted 6.280 sq. ft.)

Pressure to which they are adjusted

204 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

18"

Is oil fuel carried in the double bottom under boilers

No.

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

10'0"

Length

10'6"

Shell plates: Material

Steel

Tensile strength

24/33 tons

Thickness

5 7/16"

Are the shell plates welded or flanged

Description of riveting: circ. seams

end

D.R. Lap

long. seams

T.R. O.B. Straps.

Diameter of rivet holes in

(circ. seams 3 1/32"

Pitch of rivets

3" 6 15/16"

Percentage of strength of circ. end seams

plate 67.7

rivets 43.7

Percentage of strength of circ. intermediate seam

plate 86

rivets 88.7

Percentage of strength of longitudinal joint

plate 86

rivets 88.7

combined 89.7

Working pressure of shell by Rules

200 lbs.

Thickness of butt straps

(outer 1 1/16"

inner 1 3/16"

No. and Description of Furnaces in each Boiler

Two Corrugated Right Angle Section 8 1/2" back ends

Material

Steel

Tensile strength

26/30 tons

Smallest outside diameter

2'8 7/16"

Length of plain part

(top

bottom

Thickness of plates

(crown 1 5/32"

bottom 1 5/32"

Description of longitudinal joint

Weld.

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

Working pressure of furnace by Rules

207 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30 tons

Thickness

1 5/16"

Pitch of stays 1 1/4" x 13 1/2"

How are stays secured

Double Nuts

Working pressure by Rules

213

and 200.6 lbs.

Tube plates: Material

(front Steel

back

Tensile strength

26/30 tons

Thickness

1 5/16"

Working pressure

(front 200.5 lbs

back 230 lbs

Mean pitch of stay tubes in nests

9.7"

Pitch across wide water spaces

1 1/4"

Working pressure

(front 200.5 lbs

back 230 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 tons

Depth and thickness of girder

at centre

7 1/2" x 1 9/16"

Length as per Rule

30"

Distance apart

8"

No. and pitch of stays

in each

2 @ 9 3/4"

Working pressure by Rules

204 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons

Thickness: Sides

25/32"

Back

25/32"

Top

25/32"

Bottom

25/32"

Pitch of stays to ditto: Sides

10 3/4" x 9 3/4"

Back

10 3/8" x 9 5/8"

Top

9 3/4" x 8"

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

204, 205, 215, 270 lbs

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons

Thickness

1 5/16"

Lower back plate: Material

Steel

Tensile strength

26/30 tons

Thickness

1 5/16"

Pitch of stays at wide water space

14 1/2"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

226 and 204 lbs

Main stays: Material

Steel

Tensile strength

28/32 tons

Diameter

(At body of stay, 2 1/8"

or 2 1/2"

No. of threads per inch

6

Area supported by each stay

14" x 13 1/2"

Working pressure by Rules

201 lbs

Screw stays: Material

Steel

Tensile strength

26/30 tons

Diameter

(At turned off part, 1 7/8"

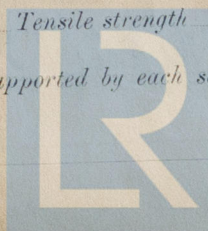
or 1 3/4"

No. of threads per inch

9

Area supported by each stay

10 1/4" x 9 3/4" and 9 3/4" x 8"



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Working pressure by Rules 202, 220 lbs Are the stays drilled at the outer ends ho. Margin stays: Diameter { At turned off part, or Over threads } 2"
No. of threads per inch 9 Area supported by each stay 11 1/16" x 10 3/8" Working pressure by Rules 200, 21 lbs
Tubes: Material Seamless Steel External diameter { Plain 3" Stay 3" } Thickness { 3/8", 5/16", 1/4" } No. of threads per inch 9
Pitch of tubes 4 1/4" x 4 1/8" Working pressure by Rules 230, 200 1/4, 205, 211 lbs. Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 2'-11" x 2'-7" x 1" No. of rivets and diameter of rivet holes 32 @ 1 1/8" dia
Outer row rivet pitch at ends 8" Depth of flange if manhole flanged 3 1/2" Steam Dome: Material
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 N.E. of Smoke tube Manufacturers of Tubes Messrs Talbot & Stead Headers Messrs Frodingham Steel Co.
Number of elements 48 Material of tubes S.D. Steel Internal diameter and thickness of tubes 15 x 2 1/2 in
Material of headers Mild steel Tensile strength 26/30 tons Thickness 1 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 3.14 sq Are the safety valves fitted with easing gear Yes Working pressure as per Rules 200 lbs Pressure to which the safety valves are adjusted 205 lbs. Hydraulic test pressure: tubes 1500 lbs medium 600 lbs. and after assembly in place 450 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. Manufacturer.

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

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

This Boiler has been constructed under special survey in accordance with the approved plan and the requirements of the Rules. Workmanship and materials are good.
In notation given in Report. 4.

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

M Caldwell & L.R. Home
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 20 NOV 1936
Assigned see Machy. 2. & Report.

FRI. 4 DEC 1936



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