

REPORT ON BOILERS.

No. 32094

Received at London Office MAY 25 1937

Date of writing Report

193

When handed in at Local Office

24 MAY 1937

Port of

SUNDERLAND.

No. in Survey held at
eg. Book.

SUNDERLAND.

Date, First Survey

Last Survey 19 May 1937

(Number of Visits

Gross

5252

Tons

Net

2978

on the

LOCH DEE

Master

Built at Sunderland

By whom built J. H. Thompson & Sons Ltd

Yard No. 578

When built 1937

Engines made at

Sunderland

By whom made

N. E. Marine Eng. Co. Ltd.

Engine No. 2869

When made 1937

Boilers made at

Sunderland

By whom made

N. E. Marine Eng. Co. Ltd.

Boiler No. 2869

When made 1937

Nominal Horse Power

409

Owners

Maday & McIntyre, Ltd

Port belonging to

Glasgow

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Company of Scotland.

(Letter for Record

S

Total Heating Surface of Boilers

5682 sq

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

Three multitubular cylindrical

3SB

Working Pressure

220 lbs.

Tested by hydraulic pressure to

380 lbs.

Date of test 27/1/37 3/2/37

of Certificate

425/6/7

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

46.3 sq

No. and Description of safety valves to each boiler

2 direct opening

with lift

Area of each set of valves per boiler

per Rule

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

Smallest distance between boilers or uptakes and bunkers or woodwork

1'-0"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-0"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

14'-6 1/2"

Length

11'-9"

Shell plates: Material

Steel

Tensile strength

29/33 tons/sq

Thickness

1 1/4"

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 1/8"

Pitch of rivets

4 1/4"

Percentage of strength of circ. end seams

plate

66.7

rivets

43.5

Percentage of strength of circ. intermediate seam

plate

—

rivets

—

Percentage of strength of longitudinal joint

plate

86.6

rivets

86.7

Working pressure of shell by Rules

220.2 lbs.

Thickness of butt straps

outer

1 1/8"

inner

1 1/8"

No. and Description of Furnaces in each Boiler

3. "Lighthouse" corrugated. Stephen Gourlay

Material

Steel

Tensile strength

26/30 tons/sq

Smallest outside diameter

3'-5 1/2"

Length of plain part

top

—

bottom

—

Thickness of plates

crown

1 1/4"

bottom

1 1/4"

Description of longitudinal joint

weld

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

Working pressure of furnace by Rules

247 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30 tons/sq

Thickness

1 1/8"

Pitch of stays 1'-8 1/4" x 1'-6 7/8"

How are stays secured

Smith nuts

Working pressure by Rules

220.7 lbs.

Tube plates: Material

front

Steel

back

Steel

Tensile strength

26/30 tons/sq

Thickness

29/32"

31/32"

Mean pitch of stay tubes in nests

9.41

Pitch across wide water spaces

1'-5"

Working pressure

front

233 lbs.

back

342 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 tons/sq

Depth and thickness of girder

at centre

11 1/2" x 1 7/8"

Length as per Rule

3'-9"

Distance apart

9"

No. and pitch of stays

in each

4 x 8 3/4"

Working pressure by Rules

223 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 3/4" x 8 3/4"

Back

10 7/8" x 8 3/4"

Top

9" x 8 3/4"

Are stays fitted with nuts or riveted over

nut fitted

Working pressure by Rules

223 lbs

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons/sq

Thickness

28/32"

Lower back plate: Material

Steel

Tensile strength

26/30 tons/sq

Thickness

31/32"

Pitch of stays at wide water space

1'-3 1/4"

Are stays fitted with nuts or riveted over

nut fitted

Working Pressure

223 lbs

Main stays: Material

Steel

Tensile strength

28/32 tons/sq

Diameter

At body of stay,

3 1/8"

or

Over threads

3 1/2"

No. of threads per inch

6

Area supported by each stay 1'-8 1/4" x 1'-6 7/8"

Working pressure by Rules

223 lbs.

Screw stays: Material

Steel

Tensile strength

26/30 tons/sq

Diameter

At turned off part,

2 1/8"

or

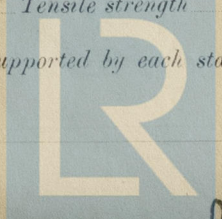
Over threads

2 1/8", 1 7/8", 1 3/4"

No. of threads per inch

9

Area supported by each stay 12 1/4" x 10 1/4", 10 7/8" x 8 1/4"



Lloyd's Register Foundation

002711-002716-002714

Working pressure by Rules 220 lbs Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 2" or Over threads 2"

No. of threads per inch 9 Area supported by each stay 12 1/2" x 8 3/8" Working pressure by Rules 220 lbs

Tubes: Material Sheet External diameter { Plain 3" Stay 3" Thickness { 8.11.6. 1/4", 5/16", 3/8", 7/16" No. of threads per inch 9

Pitch of tubes 9.44" Working pressure by Rules 220 lbs Manhole compensation: Size of opening

shell plate 20/18" x 16/18" Section of compensating ring 15 3/8" x 1 3/32" No. of rivets and diameter of rivet holes 32, 1 1/2"

Outer row rivet pitch at ends 10 1/2" Depth of flange if manhole flanged 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 { Plate ✓ Rivets ✓

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 tube Manufacturers of { Tubes "Tubes" Ltd Steel castings Frodingham Steel Co. Ltd.

Number of elements 162 Material of tubes Solid drawn steel Internal diameter and thickness of tubes 15 1/4" x 2 1/2"

Material of headers Forged steel Tensile strength 26/30 tons/sq" Thickness 1 1/8" Can the superheater be shut off

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 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 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.
Manufactured by Archd. J. Bony

Dates of Survey { During progress of work in shops - - - Please see Mch 4 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.)

These boilers have been constructed under special survey in accordance with the requirements of the Rules, approved plans and the Surveyor's letters. The workmanship and materials are good. In recommendation please see Rpt 4.

Survey Fee ... £ Please see Mch 4 Rpt When applied for, 192

Travelling Expenses (if any) £ ✓ When received, 192

Committee's Minute FRI 4 JUN 1937

Assigned See Std. J.E. 32094