

REPORT ON BOILERS.

No. 33397

Received at London Office

21 MAY 1942

Date of writing Report

1942

When handed in at Local Office

18 May

1942

Port of

SUNDERLAND.

No. in Survey held at
Reg. Book.

SUNDERLAND.

Date, First Survey

Last Survey

18 May 1942

(Number of Visits)

Gross

7167

Tons

Net

4247

on the

8/5 ELMWOOD

Master

Built at Sunderland

By whom built

J. L. Thompson & Sons Ltd

No.

66

When built 1942

Engines made at

Sunderland

By whom made

H. F. Mac. Sug. Co. (1938), Ltd

Engine No

4014

When made 1942

Boilers made at

do.

By whom made

do.

Boiler No.

do.

When made do.

Nominal Horse Power

506

Owners

John I. Jacobs & Co. Ltd

Port belonging to

London

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

Manufacturers of Steel

Steel Co. of Scotland

(Letter for Record

S

Total Heating Surface of Boilers

5716 sq

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

2. Single Ended Cylindrical

Working Pressure

220 lbs.

Tested by hydraulic pressure to

380 lbs

Date of test

13.2.42

No. of Certificate

4408/9

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

67.5 sq

No. and Description of safety valves to each boiler

2 Direct Spring

Area of each set of valves per boiler

per Rule 15.4 sq

as fitted 16.58 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

24"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-4"

Is the bottom of the boiler insulated

yes.

Largest internal dia. of boilers

15'-11 1/2"

Length

12'-4 1/2"

Shell plates: Material

Steel

Tensile strength

29/33

Thickness

1 1/2"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end D.T.L.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

long. seams

1 9/16"

Pitch of rivets

4 1/8"

10 9/16"

Percentage of strength of circ. end seams

plate

62.1

rivets

48.4

Percentage of strength of circ. intermediate seam

plate

—

rivets

—

Percentage of strength of longitudinal joint

plate

85.11

rivets

88.2

combined

88.1

Working pressure of shell by Rules

220 lbs.

Thickness of butt straps

outer

1 3/16"

inner

1 5/16"

No. and Description of Furnaces in each Boiler

3 Slighton - Stephen - Gmelin nicks.

Material

Steel

Tensile strength

26/30

Smallest outside diameter

3'-11 1/2"

Length of plain part

top

—

bottom

—

Thickness of plates

crown

4 7/16"

bottom

4 7/16"

Description of longitudinal joint

Weld

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

Working pressure of furnace by Rules

228 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

1 1/2"

Pitch of stays

23 x 20 3/16"

How are stays secured

double nuts

Working pressure by Rules

220 lbs.

Tube plates: Material

front

Steel

back

Steel

Tensile strength

26/30

Thickness

15/16"

7/8"

Mean pitch of stay tubes in nests

8.7"

Pitch across wide water spaces

14 1/2" x 7 1/2"

Working pressure

front

227 lbs.

back

264 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

29/33

Depth and thickness of girder

at centre

11 1/2" x 2"

Length as per Rule

46 1/2"

Distance apart

8 1/2"

No. and pitch of stays

in each

3 x 11/8"

Working pressure by Rules

233 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: Sides

25/32"

Back

25/32"

Top

25/32"

Bottom

29/32"

Pitch of stays to ditto: Sides

8 1/2" x 11/8"

Back

8 1/8" x 11/8"

Top

9 1/16" x 9 3/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

220 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

31/32"

Pitch of stays at wide water space

14 3/4" x 8 3/4"

Are stays fitted with nuts or riveted over

nuts fitted

Working Pressure

220 lbs.

Main stays: Material

Steel

Tensile strength

28/32

Diameter

At body of stay,

3 1/2"

or

Over threads

No. of threads per inch

6

Area supported by each stay

23" x 20 13/16"

Working pressure by Rules

220 lbs.

Screw stays: Material

Steel

Tensile strength

26/30

Diameter

At turned off part,

1 7/8"

or

Over threads

No. of threads per inch

9

Area supported by each stay

9 1/16" x 9 3/4"

Working pressure by Rules 220 lbs. Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part,} 2 1/8" or ^{Over threads}

No. of threads per inch 9 Area supported by each stay 12 5/8" x 9 15/16" Working pressure by Rules 220 lbs.

Tubes: Material Steel External diameter ^{Plain} 2 1/2" Thickness ^{Stay} 8 W.G. No. of threads per inch 9

Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 252 lbs. Manhole compensation: Size of opening in End shell plate 16" x 12" 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 5/16" 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 — 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 22 inclusive for boilers been complied with —

THE NORTH EASTERN MARINE ENGINEERING CO. (1885) LTD.
The foregoing is a correct description,
[Signature] Manufacturer.
RESIDENT MANAGER.

Dates of Survey ^{During progress of work in shops - -} Please see Rpt 4 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 approved plans, Secretary's letters and the requirements of the Rules. Workmanship and materials are good.
In recommendation please see Rpt. 4.

Survey Fee £ 192 When applied for, 192

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

[Signature]

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 2 JUN 1942

Assigned See Mtd. J.C. 33397