

REPORT ON BOILERS.

No. 32159

Received at London Office

AUG 3 1937

Date of writing Report

1937

When handed in at Local Office

26 July 1937 Port of

SUNDERLAND.

No. in Survey held at
Reg. Book.

Sunderland

Date, First Survey

Last Survey

20 July 1937

on the

CORFIELD

(Number of Visits)

Tons

Gross

Net

Master

Built at

Barnstaple

By whom built

Barnstaple S.S. Co. Ltd. Yard No. 214

When built 1937

Engines made at

Sunderland

By whom made

N.E. Marine Eng. Co. Ltd.

Engine No. 2873

When made 1937

Boilers made at

Sunderland

By whom made

N.E. Marine Eng. Co. Ltd.

Boiler No. 2873

When made 1937

Nominal Horse Power

176

Owners

Long & Co. Ltd.

Port belonging to

London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Company of Scotland

(Letter for Record)

Total Heating Surface of Boilers

2506 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

280 lbs.

Date of test

27/5/37

No. of Certificate

4228/9

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

24 1/2 sq ft

No. and Description of safety valves to each boiler

2 direct spring

Area of each set of valves per boiler

per Rule 7.8"

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

18"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

34"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

11'-9 3/32"

Length

10'-6"

Shell plates: Material

Steel

Tensile strength

29/38 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"

long. seams

1 3/16"

Pitch of rivets

3 1/2"

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

combined 88.88

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

Two corrugated Brighton Ltd. "Stephan" furnaces

Material

Steel

Tensile strength

26/30 tons/sq in

Smallest outside diameter

2'-8 1/2"

Length of plain part

top

bottom

Thickness of plates

crown

1 1/2"

bottom

Description of longitudinal joint

weld

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

Working pressure of furnace by Rules

222 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 Steel

back Steel

Tensile strength

26/30 tons/sq in

Thickness

1 1/32"

13/16"

Mean pitch of stay tubes in nests

10.81 in

Pitch across wide water spaces

14.5" x 8.88"

Working pressure

front 223

back 222

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

10"

No. and pitch of stays

in each

2, 9 1/16"

Working pressure by Rules

222 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

10" x 9.69"

Back

10" x 9 1/2"

Top

10" x 9.69"

Are stays fitted with nuts or riveted over

nuts.

Working pressure by Rules

220

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons/sq in

Thickness

1 1/32"

Lower back plate: Material

Steel

Tensile strength

26/30 tons/sq in

Thickness

1 1/32"

Pitch of stays at wide water space

14.5" x 10"

Are stays fitted with nuts or riveted over

nuts fitted.

Working Pressure

280 lbs.

Main stays: Material

Steel

Tensile strength

28/32 tons/sq in

Diameter

At body of stay,

2 5/8"

or

Over threads

3"

No. of threads per inch

6

Area supported by each stay

15" x 14.88"

Working pressure by Rules

264 lbs

Screw stays: Material

Steel

Tensile strength

26/30 tons/sq in

Diameter

At turned off part,

1 7/8"

or

Over threads

1 7/8"

No. of threads per inch

9

Area supported by each stay

10" x 9.69"

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

No. of threads per inch 9 Area supported by each stay 11.75" x 9.5" Working pressure by Rules 220 lbs.

Tubes: Material S.D. Steel External diameter ^{Plain} 3 1/4" ^{Stay} 2 1/4" Thickness 8.4.6. No. of threads per inch 9

Pitch of tubes 4 1/2" x 4 1/2" Working pressure by Rules 236 Manhole compensation: Size of opening in 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 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 —

How connected to shell — Inner radius of crown — Working pressure by Rules —

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 Amble tube Manufacturers of ^{Tubes} Stewart & Hyde, ^{Steel castings} Appleby Fordingham Steel Co.

Number of elements 58 Material of tubes S.D. Steel Internal diameter and thickness of tubes 15 1/4" / 2.5"

Material of headers Forged steel Tensile strength 26,500 lbs/sq in 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 in Are the safety valves fitted with easing gear yes Working pressure as per Rules — Pressure to which the safety valves are adjusted — 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,
FOR THE NORTH EASTERN MARINE ENGINEERING CO. LTD. Manufacturer.

Dates of Survey ^{During progress of work in shops - -} Please see Machinery Rpt Are the approved plans of boiler and superheater forwarded herewith yes ^(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 ... £ : : When applied for, 192

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

L. R. Home

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute WED 4 AUG 1937

Assigned See Lon 19369