

REPORT ON BOILERS.

No. 31976

Received at London Office

10 DEC 1936

of writing Report

192

When handed in at Local Office

- 4 DEC. 1936

Port of

SUNDERLAND.

o. in Surcey held at
Book.

SUNDERLAND

Date, First Surcey

Last Surcey 28 Nov 1936

(Number of Visits

Gross

1096

Tons

Net

577

on the

CORHEATH

ster

Built at

Sunderland

By whom built

S.P. Austin & Sons, Ltd.

No. 341

When built 1936

ines made at

Sunderland

By whom made

North Eastern Marine Eng. Co. Ltd.

Engine No. 2858

When made 1936

ilers made at

Sunderland

By whom made

North Eastern Marine Eng. Co. Ltd.

Boiler No. 2858

When made 1936

iminal Horse Power

Owners E. & J. Colliers, Ltd.

Port belonging to

London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The Steel Company of Scotland

(Letter for Record

8

Total Heating Surface of Boilers

2254 sq ft

Is forced draught fitted

no

Coal or Oil fired

coal

No. and Description of Boilers

one cylindrical Multitubular

Working Pressure 220 lbs.

Tested by hydraulic pressure to

380 lbs.

Date of test 21.10.36

No. of Certificate

4205

Can each boiler be worked separately

Area of Firegrate in each Boiler

52.8 sq ft

No. and Description of safety valves to each boiler

Double spring loaded

Area of each set of valves per boiler

per Rule

as fitted

14.14 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

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

2'-5"

Is oil fuel carried in the double bottom under boilers

yes

Smallest distance between shell of boiler and tank top plating

yes

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

14'-9 1/8"

Length

11'-0"

Shell plates: Material

Steel

Tensile strength

29/33 tons/sq in

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 1/2"

Pitch of rivets

4 3/8"

Percentage of strength of circ. end seams

plate

65.7

rivets

44.4

Percentage of strength of circ. intermediate seam

plate

—

rivets

—

Percentage of strength of longitudinal joint

plate

85.36

rivets

89.1

combined

88.55

Working pressure of shell by Rules

223 lbs.

Thickness of butt straps

outer

1 3/32"

inner

1 1/32"

No. and Description of Furnaces in each Boiler

3. Dighton corrugated with Stephen Gundry lugs.

Material

Steel

Tensile strength

26/30 tons/sq in

Smallest outside diameter

3'-6 9/16"

Length of plain part

top

—

bottom

—

Thickness of plates

crown

2 1/32"

bottom

—

Description of longitudinal joint

weld

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

—

Working pressure of furnace by Rules

225 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30 tons/sq in

Thickness

1 1/32"

Pitch of stays 1'-9" x 1'-8"

How are stays secured

Double nuts.

Working pressure by Rules

220.9 lbs.

Tube plates: Material

front

Steel

back

Steel

Tensile strength

26/30 tons/sq in

Thickness

2 1/32"

Mean pitch of stay tubes in nests

10'-6"

Pitch across wide water spaces

1'-2 1/2"

Working pressure

front 269 lbs.

back 228 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

29/32 tons/sq in

Depth and thickness of girder

at centre

8 1/4" x 2" x 15 1/16"

Length as per Rule

3078"

Distance apart

10"

No. and pitch of stays

in each

2 x 9 1/16"

Working pressure by Rules

230 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 1/16"

Back

10' x 9 1/16"

Top

10' x 9 1/16"

Are stays fitted with nuts or riveted over

nuts fitted

Working pressure by Rules

222 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons/sq in

Thickness

1 1/16"

Lower back plate: Material

Steel

Tensile strength

26/30 tons/sq in

Thickness

3 1/32"

Pitch of stays at wide water space

1'-2 1/2" x 10"

Are stays fitted with nuts or riveted over

nuts fitted

Working Pressure

250 lbs.

Main stays: Material

Steel

Tensile strength

28/32 tons/sq in

Diameter

At body of stay,

3 3/8"

Over threads

3 1/4"

No. of threads per inch

6

Area supported by each stay

1'-9" x 1'-8"

Working pressure by Rules

238 lbs.

Screw stays: Material

Steel

Tensile strength

26/30 tons/sq in

Diameter

At turned off part,

1 7/8", 2"

Over threads

—

No. of threads per inch

9

Area supported by each stay

10' x 9 1/16", 11 1/4" x 10"

L

Lloyd's Register
Foundation

W380-0013

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

No. of threads per inch 9 Area supported by each stay 12 3/4" x 10" Working pressure by Rules 222 lb.

Tubes: Material steel External diameter 3 1/4" Thickness 8.4.6. No. of threads per inch 9

Pitch of tubes 4 1/6" x 4 1/6" Working pressure by Rules 230 lb. Manhole compensation: Size of opening 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" Steam Dome: Material —

Tensile strength — Thickness of shell — Description of longitudinal joint —

Diameter of rivet holes — Pitch of rivets — Percentage of strength of joint —

Internal diameter — Working pressure by Rules — Thickness of crown — No. and diameter of rivets —

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 Harris, Stewart & Lynds

Number of elements 53 Material of tubes S.D. steel Internal diameter and thickness of tubes 15 1/4" 2 1/2"

Material of headers Inged steel Tensile strength 26/30 tons Thickness 5/8" Can the superheater be shut off yes

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 Rules 220 lb.

Pressure to which the safety valves are adjusted 225 lb. Hydraulic test pressure —

tubes 1500 lb. castings 660 lb. and after assembly in place 450 lb. 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 During progress of work in shops - - - Please see Mech. 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 plans and the requirements of the Rules. Workmanship and materials are good. For notation please see Rpt 4.

Survey Fee £ 100 When applied for, 192

Travelling Expenses (if any) £ 100 When received, 192

L. R. Home

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 18 DEC 1936

Assigned See minute on F.E. rpt