

REPORT ON BOILERS.

No. 32349

Received at London Office

APR 19 1938

Date of writing Report

192

When handed in at Local Office

16 APR. 1938

Port of

SUNDERLAND.

No. in Survey held at
Reg. Book.

SUNDERLAND.

Date, First Survey

Last Survey

Apr 8 1938

(Number of Visits)

Gross

4986

Tons

Net 2947

on the

s.s. "AELBYRYN"

Master

Built at

Sunderland

By whom built

H. J. Lewis & Co., Ltd. No. 719

When built 1938

Engines made at

Sunderland

By whom made

H. S. Marine Eng. Co. Ltd.

Engine No.

2886

When made 1938

Boilers made at

Sunderland

By whom made

H. S. Marine Eng. Co. Ltd.

Boiler No.

2886

When made 1938

Nominal Horse Power

353

Owners

Trinister S.S. Co. Ltd

Port belonging to

London

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

Manufacturers of Steel

The Steel Company of Scotland

(Letter for Record

S)

Total Heating Surface of Boilers

3852 sq

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

two multitubular cylindrical

Working Pressure 220 lbs.

Tested by hydraulic pressure to

380 lbs

Date of test

9/21/2/38

No. of Certificate

4260

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

43.64 sq

No. and Description of safety valves to each boiler

Two direct spring

Area of each set of valves per boiler

(per Rule 10 370"

Pressure to which they are adjusted

220 lbs

Are they fitted with casing 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

2'-4"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

13'-6 3/8"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength 29/33 tons/sq

Thickness

1 5/16"

Are the shell plates welded or flanged

no.

Description of riveting: circ. seams

inter.

Long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 3/8"

Pitch of rivets

4"

9 1/2"

Percentage of strength of circ. end seams

plate 65.6

rivets 44.5

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.5%

rivets 88.5%

Working pressure of shell by Rules

222 lbs.

Thickness of butt straps

outer 1"

inner 1 1/8"

No. and Description of Furnaces in each Boiler

Two Dugthm. Stephen Furnace Rebo.

Material

Steel

Tensile strength 26/30 tons/sq

Smallest outside diameter 36 3/8"

Length of plain part

top

bottom

Thickness of plates

crown 9 1/16"

bottom

Description of longitudinal joint

weld

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

Working pressure of furnace by Rules

221

End plates in steam space: Material

Steel

Tensile strength 26/30 tons/sq

Thickness

1 5/16"

Pitch of stays 19 1/4" x 19"

How are stays secured

double nuts

Working pressure by Rules

220.5 lbs.

Tube plates: Material

front } Steel

back }

Tensile strength

26/30 tons/sq

Thickness

15/16"

25/32"

Mean pitch of stay tubes in nests

9.94"

Pitch across wide water spaces 14" x 8 1/2"

Working pressure

front 225 lbs.

back 221 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength 28/32 tons/sq

Depth and thickness of girder

At centre

8" x 17 1/8"

Length as per Rule

32.69"

Distance apart

8 1/2"

No. and pitch of stays

At each

2. 10 1/4"

Working pressure by Rules

229 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons/sq

Thickness: Sides

25/32"

Back

25/32"

Top

25/32"

Bottom

Pitch of stays to ditto: Sides

10 1/4" x 9 1/16"

Back

10" x 9 1/16"

Top

10 1/4" x 8 1/2"

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

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength 26/30 tons/sq

Thickness

15/16"

Pitch of stays at wide water space

14 1/2" x 9 1/16"

Are stays fitted with nuts or riveted over

nuts fitted

Working Pressure

220 lbs.

Main stays: Material

Steel

Tensile strength 28/32 tons/sq

Diameter

At body of stay, 3/8"

Over threads, 3/16"

No. of threads per inch

6

Area supported by each stay 19 1/4" x 19"

Working pressure by Rules

223 lbs

Screw stays: Material

Steel

Tensile strength 26/30 tons/sq

Diameter

At turned off part, 1 7/8"

Over threads

No. of threads per inch

9

Area supported by each stay 10" x 9 1/16"

Lloyd's Register
Foundation

W1142-0123

Working pressure by Rules 220 lbs Are the stays drilled at the outer ends no Margin stays: Diameter 2" ^{At turned off part.}
 No. of threads per inch 9 Area supported by each stay 11 9/16" x 9 1/16" Working pressure by Rules 220 lbs
 Tubes: Material Steel External diameter 3" ^{Plain} 3" ^{Stay} Thickness 8 N.E. No. of threads per inch 9
 Pitch of tubes 4 3/8" x 4 1/4" Working pressure by Rules 222 lbs Manhole compensation: Size of opening
 shell plate — 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 — ^{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 Stewart & Lloyds
 Number of elements 96 Material of tubes S.D. Steel Steel castings Gooding Lane Steel Co.
 Material of headers Forged steel Tensile strength 26/30 tons/sq in Internal diameter and thickness of tubes 1 5/16" 2 1/2"
 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 casing gear yes Working pressure as
 Rules 220 lbs Pressure to which the safety valves are adjusted — 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. (1935) LTD.
 A. J. Bury.

Dates of Survey ^{During progress of work in shops - -} Please see trchly Rpt. Are the approved plans of boiler and superheater forwarded herewith yes
^{while building} ^{During erection on board vessel - - -} — (If not state date of approval.)
 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. For recommendations please see Rpt. A.

Survey Fee ... £ : ✓ When applied for. 192
 Travelling Expenses (if any) £ : ✓ When received. 192

L. D. Horne

Committee's Minute

FRI. 22 APR 1938

Assigned

See Old. F.C. 323409