

REPORT ON BOILERS.

No. 95129.

23 MAR 1929

Received at London Office

Date of writing Report

192

When handed in at Local Office

21 MAR. 1929

Port of

LIVERPOOL

No. in
Survey held at

Birkenhead

Date, First Survey

14/3/28

Last Survey

11/3/

1929

on the

Twin S.S. 'Lady Somers'

(Number of Visits

123.)

Gross

8193.

Tons

Net

Master

Built at

Birkenhead

By whom built

Cammell Laird & Co.

Yard No.

945

When built

1929

Engines made at

Birkenhead

By whom made

Cammell Laird & Co.

Engine No.

944

When made

1929

Boilers made at

Birkenhead

By whom made

Cammell Laird & Co.

Boiler No.

945

When made

1929

Horse Power

5400

Owners

Canadian National S.S. Co.

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

David Colville & Co. Ltd

(Letter for Record 5)

Total Heating Surface of Boilers

13500 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

oil

No. and Description of Boilers

4 Cylindrical multitubular

Working Pressure

220 lb sq in

Tested by hydraulic pressure to

380 lb sq in

Date of test

1-10-28

No. of Certificate

2316

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

107 sq ft

No. and Description of safety valves to each boiler

Two spring loaded high lift

Area of each set of valves per boiler

per Rule

as fitted

119 sq in

Pressure to which they are adjusted

220 lb sq in

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

15"

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

21"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

16'-6"

Length

12'-0"

Shell plates: Material

Steel

Tensile strength

29-33 tons sq in

Thickness

1 5/8"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

DR lap

Pitch of seam

Double R. Double butt

Diameter of rivet holes in

circ. seams

1 1/16"

Pitch of rivets

4-355"

Percentage of strength of circ. end seams

plate

61.2%

Percentage of strength of circ. intermediate seam

plate

50.1%

Percentage of strength of longitudinal joint

plate

83.9%

Working pressure of shell by Rules

223 lb sq in

Thickness of butt straps

outer

1 9/32"

No. and Description of Furnaces in each Boiler

Four Corrugated

Material

Steel

Tensile strength

26-30 tons sq in

Smallest outside diameter

3'-5"

Length of plain part

top

1 1/32"

Thickness of plates

crown

3/8"

Description of longitudinal joint

weld

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

None

Working pressure of furnace by Rules

222 lb sq in

Stays in steam space: Material

Steel

Tensile strength

26-30 tons sq in

Thickness

1 3/16"

Pitch of stays

19 1/2" x 16 1/2"

How are stays secured

Double hats and plain washers

Working pressure by Rules

228 lb sq in

Stays in water space: Material

front

Steel

Tensile strength

26-30 tons sq in

Thickness

1 1/2"

Pitch of stays

29 1/2" x 16 1/2"

Pitch of stay tubes in nests

9.685"

Pitch across wide water spaces

13 3/4"

Working pressure

front

295 lb sq in

Stays to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons sq in

Depth and thickness of girder

Centre to centre

2 plates 8 3/4" x 13/16"

Length as per Rule

2'-7 1/2"

Distance apart

8 7/8" max

No. and pitch of stays

Each

3 @ 7 1/2"

Working pressure by Rules

220 lb sq in

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons sq in

Thickness: Sides

2 1/32"

Back

2 1/32"

Top

2 1/32"

Bottom

15 1/16"

Pitch of stays to ditto: Sides

8 x 8"

Back

7 x 9 1/8"

Top

8 7/8 x 7 1/2"

Are stays fitted with nuts or riveted over

hats

Working pressure by Rules

227 lb sq in

Front plate at bottom: Material

Steel

Tensile strength

15 1/2" 26-30 tons sq in

Thickness

1 1/2"

Lower back plate: Material

Steel

Tensile strength

26-30 tons sq in

Thickness

15 1/16"

Pitch of stays at wide water space

14 7/8 x 7"

Are stays fitted with nuts or riveted over

hats

Working Pressure

267 lb sq in

Main stays: Material

Steel

Tensile strength

28-32 tons sq in

Pitch of stays

At body of stay,

3 1/8"

No. of threads per inch

6

Area supported by each stay

322 sq in

Working pressure by Rules

229 lb sq in

Screw stays: Material

Steel

Tensile strength

26-30 tons sq in

Pitch of stays

At turned off part,

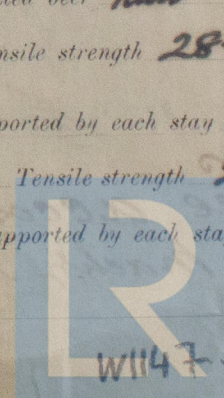
1 5/8"

No. of threads per inch

9

Area supported by each stay

64 sq in



Working pressure by Rules **236 lb** Are the stays drilled at the outer ends **no** Margin stays: Diameter **1 7/8"** At turned off part or Over threads **1 7/8"**
 No. of threads per inch **9** Area supported by each stay **148 1/2" x 8 1/2"** Working pressure by Rules **254 lb**
Tubes: Material **A.B. Iron** External diameter **2 3/4"** Thickness **1/8"** No. of threads per inch **9**
 Pitch of tubes **3 7/8" x 3 7/8"** Working pressure by Rules **246 lb** Manhole compensation: Size of opening in shell plate **22 x 9"** Section of compensating ring **11 1/2" x 1 7/8"** No. of rivets and diameter of rivet holes **36 @ 1 1/2"**
 Outer row rivet pitch at ends **10 1/2"** 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 **✓**
 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 **Superheater Co. R.B. type** Manufacturers of **Superheater Co. Ltd. Manchester**
 Number of elements **90 each boiler** Material of tubes **solid drawn steel** Internal diameter and thickness of tubes **1 5/8" 3/16"**
 Material of headers **wrought steel** Tensile strength **26,300 lb** Thickness **7/8"** Can the superheater be shut off and the boiler be worked separately **yes**
 Area of each safety valve **3.14 sq. in.** Is a safety valve fitted to every part of the superheater which can be shut off from the boiler **yes**
 Rules **220 lb** Pressure to which the safety valves are adjusted **220 lb** Working pressure as per tubes **1200 lb** castings **660 lb** and after assembly in place **440 lb** Hydraulic test pressure: 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

The foregoing is a correct description,
CAMMELL LAIRD AND COMPANY LIMITED Manufacturer.

Dates of Survey **During progress of work in shops - - -** **See Mely report.** Are the approved plans of boiler and superheater forwarded herewith **yes (5)**
while building **During erection on board vessel - - -** Total No. of visits **123**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

These boilers have been constructed under special survey, and are in accordance with the Rules and the approved plans. They have been satisfactorily installed on board, and examined under steam, & the vessel is in my opinion, now eligible for records of T.M.C. 3.29, and fitted for oil fuel 3.29. As above 1507E-25

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

J. J. Milton.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **LIVERPOOL 22 MAR. 1929**

Assigned *See accompanying machy rpt.*