

Rpt. 5a.

REPORT ON BOILERS.

No. 86683.

Date of writing Report

192

When handed in at Local Office

4 APR 1924

Port of

Received at London Office

LIVERPOOL

WED. APR. 29 1924

No. in Survey held at
Reg. Book.

BIRKENHEAD.

Date, First Survey

3rd Oct 1923.

Last Survey

8th April 1924

on the

BOILER FOR S.S. LA MAREA

(Number of Visits)

Gross

Net

Master

Built at

BIRKENHEAD

By whom built

CAMMELL LAIRD & CO. LD

Yard No.

895

When built

1924

Engines made at

BIRKENHEAD.

By whom made

CAMMELL LAIRD & CO. LD

Engine No.

895

When made

1924

Boiler made at

BIRKENHEAD

By whom made

CAMMELL LAIRD & CO. LD

Boiler No.

895

When made

1924.

Nominal Horse Power

Owners UNIFRUITCO S.S. CO. LD (CLARK SERVICE MESS)

Port belonging to

GLASGOW.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel LANARKSHIRE STEEL CO PORT TALBOT STEEL CO & JOHN SPENCER & SONS LTD. (Letter for Record S.)

Total Heating Surface of Boilers

769 sq ft

Is forced draught fitted

No

Coal or Oil fired

OIL

No. and Description of Boilers

ONE MULTITUBULAR CYLINDRICAL, SINGLE ENDED.

Working Pressure

140 LBS.

Tested by hydraulic pressure to

260 LBS.

Date of test

25/1/23

No. of Certificate

2216

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

7.45 sq ft

ONE, DOUBLE SPRING LOADED.

Area of each set of valves per boiler

per Rule

7.95 sq ft

Pressure to which they are adjusted

140 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

15"

Is oil fuel carried in the double bottom under boilers

YES.

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

YES.

Largest internal dia. of boilers

9' 9"

Length

9' 4"

Shell plates: Material

STEEL

Tensile strength

28-32 TONS.

Thickness

2 1/32"

Are the shell plates welded or flanged

Yes

Description of riveting: circ. seams

end DOUBLE

Long. seams

TREBLE

Diameter of rivet holes in

circ. seams

13/16"

long. seams

13/16"

Pitch of rivets

2.567"

Percentage of strength of circ. end seams

plate

68.4

rivets

50.55

Percentage of strength of circ. intermediate seam

plate

85.2

rivets

110.6

Percentage of strength of longitudinal joint

plate

85.2

rivets

110.6

Working pressure of shell by Rules

140.7 LBS.

Thickness of butt straps

outer

9/16"

inner

3/4"

No. and Description of Furnaces in each Boiler

TWO CORRUGATED, DEIGHTON SECTION

Material

STEEL

Tensile strength

26-30 TONS.

Smallest outside diameter

3' 2"

Length of plain part

top

bottom

Thickness of plates

crown

1/2"

bottom

Description of longitudinal joint

WELDED

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

Working pressure of furnace by Rules

207.7 LBS.

End plates in steam space: Material

STEEL

Tensile strength

26-30 TONS.

Thickness

13/16"

Pitch of stays

14" x 15"

How are stays secured

NUTS & WASHERS.

Working pressure by Rules

142.5 LBS.

Tube plates: Material

front

STEEL

back

Tensile strength

26-30 TONS.

Thickness

13/16"

Working pressure

front

149.1 LBS.

back

295.5 LBS.

Mean pitch of stay tubes in nests

8 1/4"

Pitch across wide water spaces

14"

Working pressure

front

149.1 LBS.

back

295.5 LBS.

Girders to combustion chamber tops: Material

STEEL

Tensile strength

28-32 TONS.

Depth and thickness of girder

at centre

6" x 9/16"

Length as per Rule

1' 10 1/16"

Distance apart

7"

No. and pitch of stays

in each

ONE

Working pressure by Rules

149.7 LBS.

Combustion chamber plates: Material

STEEL

Tensile strength

26-30 TONS.

Thickness: Sides

9/16"

Back

9/16"

Top

9/16"

Bottom

3/4"

Pitch of stays to ditto: Sides

9"

Back

9" x 8"

Top

7"

Are stays fitted with nuts or riveted over

NUTS.

Working pressure by Rules

145.4 LBS. & 149 LBS.

Front plate at bottom: Material

STEEL

Tensile strength

26-30 TONS.

Thickness

13/16"

Lower back plate: Material

STEEL

Tensile strength

26-30 TONS.

Thickness

13/16"

Pitch of stays at wide water space

14" x 9"

Are stays fitted with nuts or riveted over

NUTS.

Working Pressure

194 LBS.

Main stays: Material

STEEL

Tensile strength

28-32 TONS.

Diameter

At body of stay,

or

Over threads

2 1/8"

No. of threads per inch

6

Area supported by each stay

210 sq ins.

Working pressure by Rules

144.1 LBS.

Screw stays: Material

STEEL

Tensile strength

26-30 TONS.

Diameter

At turned off part,

or

Over threads

1 1/2"

No. of threads per inch

9

Area supported by each stay

72 sq ins.

002038-002050-0225

Working pressure by Rules 174 LBS Are the stays drilled at the outer ends ✓ Margin stays: Diameter { At turned off part, 1 5/8" or Over threads 1 5/8" ✓
No. of threads per inch 9 ✓ Area supported by each stay 99 sq. ins. Working pressure by Rules 153.6 LBS
Tubes: Material STEEL External diameter { Plain 3" Stay 3" Thickness { 5/16" No. of threads per inch 9 ✓
Pitch of tubes 4 1/8" x 4 1/8" Working pressure by Rules 379 LBS (STAY) & 212 LBS (BORER) Manhole compensation: Size of opening
shell plate 21 1/4" x 17 1/4" Section of compensating ring 7 5/8" x 3 1/4" No. of rivets and diameter of rivet holes 44 / 1 5/16 DIA
Outer row rivet pitch at ends 6 3/8" Depth of flange if manhole flanged 3 1/4" 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 safety
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 at
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 23 inclusive for boilers been complied with YES.
The foregoing is a correct description.
J. W. L. Laidlaw & Co. Ltd. Manufacturer
LOCAL SECRETARY

Dates of Survey { During progress of work in shops - - - } Are the approved plans of boiler and superheater forwarded herewith in home office
while building { During erection on board vessel - - - } See report on machinery Total No. of visits ✓

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This Boiler has now been built under special survey and is in accordance with the approved plan and Secretary's letter E. August 24, 1922. The material and workmanship are of a good quality, and when tested under hydraulic pressure to 260 lbs per sq. inch was found tight and satisfactory in every respect. The Boiler has been fitted on board examined under steam and safety valves adjusted to 140 lbs per sq. inch. Size of compression washers 1/32" Ford 3/8" AFT. The Boiler is eligible in our opinion for notation + NB 4.24.

This Boiler has been fitted with an Oil Fuel installation in accordance with approved plan, Secretary's letter E. August 30th 1923 and the rule requirements. On completion the installation was examined and tested under full working condition and found satisfactory in every respect. The Boiler is eligible in our opinion to have notation "Fitted for oil fuel 4.24. F.P. above 150° F"

Survey Fee ... £ 5 : 2 : 0 When applied for, 5/4/ 1924
Travelling Expenses (if any) £ : : When received, 11/2/ 1924

J. W. L. Laidlaw & Co. Ltd. J. W. L. Laidlaw & Co. Ltd.
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute LIVERPOOL - 8 APR 1924

Assigned See Machinery report
ZB