

## REPORT ON BOILERS.

No. 86211

Received at London Office

19 SEP 1930

Date of writing Report

19

When handed in at Local Office

18/9/30

Part of Newcastle-on-Tyne

No. in  
Reg. Book.

Survey held at

St. Peter's &amp; Hebburn

Date, First Survey

6 Feb/30

Last Survey

17 Sept

1930

on the Main Boilers for the S. S. "CERINTHUS"

(Number of Visits)

Gross

Tons

Net

Master

Built at

Hebburn

By whom built

Hawthorn Leslie &amp; Co. Ltd.

When built

1930.

Engines made at

St. Peter's

By whom made

Hawthorn Leslie &amp; Co. Ltd.

Engine No.

3478

When made

1930.

Boilers made at

St. Peter's

By whom made

Hawthorn Leslie &amp; Co. Ltd.

Boiler No.

3478

When made

1930.

Nominal Horse Power

385.

Owners

The Hadley S. S. Co. Ltd.

Port belonging to

London.

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

David Colville &amp; Sons.

(Letter for Record

S.

Total Heating Surface of Boilers

6510 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

Oil

No. and Description of Boilers

Two single ended marine

Working Pressure

200 lbs

Tested by hydraulic pressure to

350 lbs

Date of test

6.6.30

No. of Certificate

460

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

—

No. and Description of safety valves to each boiler

1 Pair High Lift (Improved)

Area of each set of valves per boiler

per Rule 11.5 sq ft  
as fitted 11.8.8 sq ft

Pressure to which they are adjusted

200 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

2'-6"

Is oil fuel carried in the double bottom under boilers

Yes.

Smallest distance between shell of boiler and tank top plating

26"

Is the bottom of the boiler insulated

Yes.

Largest internal dia. of boilers

16'-0"

Length

12'-0"

Shell plates: Material

Steel

Tensile strength

28/32 Tons

Thickness

1 1/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

D. R. Lap.

long. seams

S. R. D. B. S.

Diameter of rivet holes in

circ. seams 1 1/16"

long. seams

1 1/16"

Pitch of rivets

4'-0"

10'-0"

Percentage of strength of circ. end seams

plate

64.5%

rivets

45.8%

Percentage of strength of circ. intermediate seam

plate

—

rivets

Percentage of strength of longitudinal joint

plate

85.4%

rivets

86.1%

Working pressure of shell by Rules

200 lbs

Thickness of butt straps

outer 1 3/32"

inner 1 1/16"

No. and Description of Furnaces in each Boiler

Three, Dimpled Section.

Material

Steel

Tensile strength

26/30 Tons

Smallest outside diameter

4'-13/8"

Length of plain part

top —

bottom —

Thickness of plates

crown 1 1/16"

bottom 1 1/16"

Description of longitudinal joint

Weld.

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

—

Working pressure of furnace by Rules

205 lbs

End plates in steam space: Material

Steel

Tensile strength

26/30 Tons

Thickness

1'-0"

Pitch of stays

21.5 x 20"

How are stays secured

D. nuts.

Working pressure by Rules

213 lbs

Tube plates: Material

front Steel

back Steel

Tensile strength

26/30 Tons

Thickness

1'-3/16"

Mean pitch of stay tubes in nests

9' 4"

Pitch across wide water spaces

13 3/4"

Working pressure

front 242 lbs

back 242 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 Tons

Depth and thickness of girder

at centre

12 x 19/16"

Length as per Rule

2'-11"

Distance apart

10"

No. and pitch of stays

in each

3 @ 9"

Working pressure by Rules

290 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26/30 Tons

Thickness: Sides

23/32"

Back

45/64"

Top

23/32"

Bottom

15/16"

Pitch of stays to ditto: Sides

9' x 9"

Back

10' x 8 1/2"

Top

10' x 9"

Are stays fitted with nuts or riveted over

Nuts.

Working pressure by Rules

203 lbs

Front plate at bottom: Material

Steel

Tensile strength

26/30 Tons

Thickness

1"

Lower back plate: Material

Steel

Tensile strength

26/30 Tons

Thickness

29/32"

Pitch of stays at wide water space

15 3/4"

Are stays fitted with nuts or riveted over

Nuts.

Working Pressure

209 lbs

Main stays: Material

Steel

Tensile strength

28/32 Tons

Diameter

At body of stay, 3 5/8"

or Over threads

No. of threads per inch

6

Area supported by each stay

484 sq in

Working pressure by Rules

211 lbs

Screw stays: Material

Steel

Tensile strength

26/30 Tons

Diameter

At turned off part, 1 3/4"

or Over threads

No. of threads per inch

9

Area supported by each stay

900 sq in

W154-0091



Working pressure by Rules **201 lb** Are the stays drilled at the outer ends **Yes** Margin stays: Diameter <sup>At turned off part.</sup> **8"** <sup>or</sup> **8"** <sup>Over threads</sup>

No. of threads per inch **9** Area supported by each stay **1.09 sq"** Working pressure by Rules **225 lb**

Tubes: Material **Steel** External diameter <sup>Plain</sup> **2 3/4"** Thickness <sup>Stay</sup> **5/16" + 3/8"** No. of threads per inch **9"**

Pitch of tubes **4" x 3 7/8"** Working pressure by Rules **212 lb** Manhole compensation: Size of opening in shell plate **14" x 13"** Section of compensating ring **14" 7/8" x 1 7/8"** No. of rivets and diameter of rivet holes **30 @ 1 9/16"**

Outer row rivet pitch at ends **10 15/16"** Depth of flange if manhole flanged **-** Steam Dome: Material **Steel**

Tensile strength **-** Thickness of shell **-** Description of longitudinal joint **-**

Diameter of rivet holes **-** Pitch of rivets **-** Percentage of strength of joint <sup>Plate</sup> **-** <sup>Rivets</sup> **-**

Internal diameter **-** Working pressure by Rules **-** Thickness of crown **-** No. and diameter of stays **-** Working pressure by Rules **-**

How connected to shell **-** Inner radius of crown **-** Working pressure by Rules **-** Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell **-** Size of doubling plate under dome **-**

Type of Superheater **None** 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 and 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 22 inclusive for boilers been complied with **Yes**

**FOR R. & W. HAWTHORN, LESLIE & CO. LD.**  
The foregoing is a correct description,  
**R. J. Armstrong** Manufacturer.

Dates of Survey <sup>During progress of</sup> **-** <sup>work in shops - -</sup> **-**  
<sup>while</sup> **-** <sup>During erection on</sup> **-** <sup>board vessel - -</sup> **-**  
building **-**

**See Ind. Report**

Are the approved plans of boiler and superheater forwarded herewith **Yes**  
(If not state date of approval.)

Total No. of visits **-**

Is this Boiler a duplicate of a previous case **Yes** If so, state Vessel's name and Report No. **-**

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) **The Boilers have been built under special survey in accordance with the approved plans, the Rules of the Society, & have been securely fitted on board the vessel, their safety valves adjusted under steam to working pressure. The workmanship & materials are of good quality throughout.**

Survey Fee **£** **100**  
Travelling Expenses (if any) **£** **10**

When applied for, **19**  
When received, **19**

**Ed. A. Ferguson**

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **TUE. 23 SEP 1930**

Assigned **See attached**



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Foundation