

# REPORT ON BOILERS.

No. 13803

Newcastle-on-Tyne No. 84903

Received at London Office

7 SEP 1929

Date of writing Report *5.9.29* When handed in at Local Office *5.9.29* Port of *Middlesbrough*  
 No. in Survey held at *Stockton* Date, First Survey *21<sup>st</sup> June* Last Survey *5.9.1929*  
 Reg. Book on the *Boiler for Hawthorn Leslie No. 8.8. "SUNTRAP"* (Number of Visits *5* + *1* mo Gross *939* Tons Net  
 Built at *Hebburn* By whom built *Hawthorn Leslie & Co.* Yard No. *562* When built *1929*  
 Engines made at *Sunderland* By whom made *G. Black & Co.* Engine No. *1144* When made *1929*  
 Boilers made at *Stockton* By whom made *Riley Bros (Boilermakers) Ltd* Boiler No. *5932* When made *1929*  
 Owners *Gas Light & Coke Co. Ltd.* Port belonging to *London*

## VERTICAL DONKEY BOILER.

Made at *Stockton* By whom made *Riley Bros* Boiler No. *5932* When made *1929* Where fixed *Stokehold.*

Manufacturers of Steel *Appley Iron Co*

Total Heating Surface of Boiler *315 sq. ft.* Is forced draught fitted *Yes* Coal or Oil fired *Coal*

No. and Description of Boilers *1- Vertical Riley Type.* Working pressure *100 lbs*

Tested by hydraulic pressure to *200 lbs.* Date of test *5.9.29.* No. of Certificate *6734.*

Area of Firegrate in each Boiler *18 1/2 sq. ft.* No. and Description of safety valves to each boiler *1 Pair Spring loaded.*

Area of each set of valves per boiler { per rule *4.10* as fitted *4.20* Pressure to which they are adjusted *100 lbs.* Are they fitted with easing gear *Yes*

State whether steam from main boilers can enter the donkey boiler *No* Smallest distance between boiler or uptake and bunkers

or woodwork *18"* Is oil fuel carried in the double bottom under boiler *No* Smallest distance between base of boiler and tank top plating

*36"* Is the base of the boiler insulated *No* Largest internal dia. of boiler *5'6"* Height *12'6"*

Shell plates: Material *Steel* Tensile strength *29/32* Thickness *End 3/8" Centre 3/4"*

Are the shell plates welded or flanged *No* Description of riveting: circ. seams { end *SR* inter. *DR* long. seams *Centre TR lap.*

Dia. of rivet holes in { circ. seams *29/32* Pitch of rivets { *E 2 1/2* *C 3"* Percentage of strength of circ. seams { plate *E 57.3* *C 69.8* rivets *E 63.7* *C 90.1* of Longitudinal joint { plate *E 68.3* *C 71.5* rivets *E 85.5* *C 73.5* combined.

Working pressure of shell by rules *104 lbs* Thickness of butt straps { outer *3/8"* inner *3/4"*

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat *Dished* Material *Steel*

Tensile strength *26/30* Thickness *2 1/32"* Radius *4'11 1/2"* Working pressure by rules *105 lbs*

Description of Furnace: Plain, spherical, or dished crown *Spherical* Material *Steel* Tensile strength *26/30*

Thickness *19/32* External diameter *4'11"* Length as per rule *—* Working pressure by rules *167 lbs*

Pitch of support stays circumferentially *—* and vertically *—* Are stays fitted with nuts or riveted over *—*

Diameter of stays over thread *—* Radius of spherical or dished furnace crown *2'5 1/2"* Working pressure by rule *167 lbs*

Thickness of Ogee Ring *19/32* Diameter as per rule { *D 5'5 1/2"* *a 4'11 1/2"* Working pressure by rule *115 lbs*

Combustion Chamber: Material *Steel* Tensile strength *26/30* Thickness of top plate *9/16"*

Radius if dished *—* Working pressure by rule *132 lbs* Thickness of back plate *19/32* Radius *2'4"*

Length as per rule *—* Pitch of stays *10 1/2" x 10 1/2"* Are stays fitted with nuts or riveted over *nuts*

Diameter of stays over thread *1 1/2"* Working pressure of back plate by rules *110 lbs*

Tube Plates: Material { front *Steel* back *Steel* Tensile strength { *29/32* *26/30* Thickness { *3/4" x 3/4" double* *19/32* Mean pitch of stay tubes in nests *8 5/8"*

If comprising shell, Dia. as per rule { front *—* back *—* Pitch in outer vertical rows *3 3/4" x 5'7 1/2"* Dia. of tube holes FRONT { stay *2 3/4"* plain *2 9/16"* BACK { stay *2 1/2"* plain *2 1/2"*

Is each alternate tube in outer vertical rows a stay tube *Yes* Working pressure by rules { front *115 lbs* back *165 lbs*

Girders to combustion chamber tops: Material *Steel* Tensile strength *28/32*

Depth and thickness of girder at centre *5 1/2" x 5 7/8" (double)* Length as per rule *1'10 7/8"*

Distance apart *10"* No. and pitch of stays in each *2'8"* Working pressure by rule *132 lbs*



**Crown stays:** Material Steel Plate Tensile strength 25/32 Diameter 1 1/2" at body of stay, 16" x 1/2"  
 No. of threads per inch ✓ Area supported by each stay 190" Working pressure by rules app 100 lb  
**Screw stays:** Material Steel Tensile strength 26/30 Diameter 1 1/2" at turned off part, 1 1/2" No. of threads per inch 9  
 Area supported by each stay 108 1/2" Working pressure by rules 115 lb Are the stays drilled at the outer ends no  
**Tubes:** Material Steel External diameter 2 1/2" & 2 9/16" Thickness 11 w.g. & 9/16"  
 No. of threads per inch 9 Pitch of tubes 3 3/4" x 5" & 3 3/4" x 3 3/4" Working pressure by rules p 125 lb & 110 lb  
**Manhole Compensation:** Size of opening in shell plate 16" x 12" Section of compensating ring 5 1/2" x 9/16" No. of rivets and diameter  
 of rivet holes 48 25/32 Outer row rivet pitch at ends 5" Depth of flange if manhole flanged ✓  
**Uptake:** External diameter ✓ Thickness of uptake plate ✓  
**Cross Tubes:** No. ✓ External diameters ✓ Thickness of plates ✓

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

The foregoing is a correct description,

**RILEY BROS. (BOILERMAKERS) LIMITED.**

J. H. Shields.

Manufacturers.

SECRETARY,

Dates of Survey During progress of work in shops - 1929 June 21, 25, 28, July 1, 2, 5, 9, 12, 17, 19, 24, 30 Aug 4, Sep 2, 5 Is the approved plan of boiler forwarded herewith (If not state date of approval.) 25-7-29.  
while building During erection on board vessel - Oct. 25 Total No. of visits 15 + 1 hrs.

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

This boiler is a duplicate of Messrs Riley Bros. No. 5931 (Mal Rpt. 13783).

The material and workmanship are good.

This boiler has been built under special survey in accordance with the Rules and Approved Plan. It will be installed in the Newcastle district.

This boiler has been carefully fitted on board the vessel & its safety valves adjusted under steam to working pressure.

Survey Fee ... £ 4-4-0. When applied for, Monthly a/c

Travelling Expenses (if any) £ : : When received, 19 .....

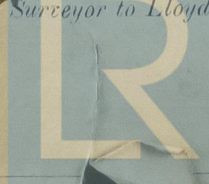
Chas. C. Ferguson

P. J. Man  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

See F.E. Rpt. Nov. 84903



Lloyd's Register  
Foundation

Note O.P. filed 100 lb