

Rpt. 5a.

## REPORT ON BOILERS

No. 12664

Received at London Office

3 AUG 1926  
10 MAY 1920

Date of writing Report

6/5/1926

When handed in at Local Office

6/5/1926

Port of

Middlesbrough

No. in Survey held at  
Reg. Book.

Stockton

Date, First Survey 14.1.26

Last Survey

5/5/1926

1926.

on the

Single End Boiler for Messrs Short Bros.  
Sunderland

(Number of Visits 16)

Gross

Tons

Net

Master

Built at

By whom built

Yard No.

When built

Engines made at

By whom made

Engine No.

When made

Boilers made at

Stockton

By whom made

Messrs Riley Bros Ltd

Boiler No. 5653

When made 1926

Nominal Horse Power

Owners

Port belonging to

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

Manufacturers of Steel

10<sup>th</sup> Beardmore & Co. Ltd. South Duffield Steel & Iron Co. Ltd. (Letter for Record (S) ✓)  
Steel Coy of Scotland. Cargo & East Iron Coy.

Total Heating Surface of Boilers

1330 sq ft

Is forced draught fitted

Coal or Oil fired

No. and Description of Boilers

One Single End 1SB ✓

Working Pressure 120 lbs

Tested by hydraulic pressure to

230 lbs

Date of test

5-5-26

No. of Certificate

6508 ✓

Can each boiler be worked separately

Area of Firegrate in each Boiler

40 sq ft

No. and Description of safety valves to each boiler

per Rule 12.380"

Pressure to which they are adjusted

Are they fitted with easing gear

Area of each set of valves per boiler

as fitted 14.114 sq ft

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

Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Largest internal dia. of boilers

12'-0" ✓

Length

126" ✓

Shell plates: Material

Steel ✓

Tensile strength

28-32 tons ✓

Thickness

11/16" ✓

Are the shell plates welded or flanged

No ✓

Description of riveting: circ. seams

end DR. LAP. ✓

long. seams

Double Butt Straps  
Triple Riveted  
4 rivets in Pitch

Diameter of rivet holes in

circ. seams 15/16" ✓

long. seams 13/16" ✓

Pitch of rivets

3" ✓

5 3/8" ✓

Percentage of strength of circ. end seams

plate 68.66

rivets 54.6

Percentage of strength of circ. intermediate seam

plate ✓

rivets ✓

Percentage of strength of longitudinal joint

plate 84.89

rivets 86.3

combined 91.35

Working pressure of shell by Rules

120 lbs

Thickness of butt straps

outer 13" x 17/32" ✓

inner 13" x 21/32" ✓

No. and Description of Furnaces in each Boiler

Two Plain ✓

Material

Steel ✓

Tensile strength

26-30 tons ✓

Smallest outside diameter

45" ✓

Length of plain part

top 77.8" ✓

bottom 85.25" ✓

Thickness of plates

crown 21/32" ✓

bottom 21/32" ✓

Description of longitudinal joint

weld ✓

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

Working pressure of furnace by Rules

118 lbs

End plates in steam space: Material

Steel ✓

Tensile strength

26-30 tons ✓

Thickness

25/32" ✓

Pitch of stays 16 1/2" 13 to 15 1/2" tubes

How are stays secured

Double nuts and loose washers 8" x 9/16" ✓

Working pressure by Rules

120 lbs

Tube plates: Material

front Steel ✓

back Steel ✓

Tensile strength

26-30 tons ✓

Thickness

25/32" ✓

front 9/8" ✓

back 149 lbs

Mean pitch of stay tubes in nests

10.27" ✓

Pitch across wide water spaces

14 1/4" x 8 3/4" ✓

Working pressure

front 149 lbs

back 130 lbs

Girders to combustion chamber tops: Material

Steel ✓

Tensile strength

28-32 tons ✓

Depth and thickness of girder

at centre

7" x 1 1/4" ✓

Length as per Rule

31" ✓

Distance apart

8 1/2" ✓

No. and pitch of stays

in each

2 c 9 1/2" ✓

Working pressure by Rules

128 lbs

Combustion chamber plates: Material

Steel ✓

Tensile strength

26-30 tons ✓

Thickness: Sides

9/16" ✓

Back

19/32" ✓

Top

9/16" ✓

Bottom

1 1/16" ✓

Pitch of stays to ditto: Sides

9 1/2" x 8 1/2" ✓

Back

10" x 9 3/4" ✓

Top

9 1/2" x 8 1/2" ✓

Are stays fitted with nuts or riveted over

nuts ✓

Working pressure by Rules

124 lbs

Front plate at bottom: Material

Steel ✓

Tensile strength

26-30 tons ✓

Thickness

25/32" ✓

Lower back plate: Material

Steel ✓

Tensile strength

26-30 tons ✓

Thickness

25/32" ✓

Pitch of stays at wide water space

14 1/4" x 9 1/4" ✓

Are stays fitted with nuts or riveted over

nuts ✓

Working Pressure

166 lbs

Main stays: Material

Steel ✓

Tensile strength

28-32 tons ✓

Diameter

At body of stay, 2 1/4" ✓

or Over threads 2 1/4" ✓

No. of threads per inch

6 ✓

Area supported by each stay

268 sq in

Working pressure by Rules

129 lbs

Screw stays: Material

Steel ✓

Tensile strength

26-30 tons ✓

Diameter

At turned off part, 1 3/8" ✓

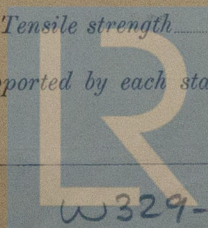
or Over threads 1 3/8" ✓

No. of threads per inch

9 ✓

Area supported by each stay

80.75 sq in

Lloyd's Register  
Foundation



Working pressure by Rules 125 lbs Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, 15/8 ✓  
or Over threads  
No. of threads per inch 9 ✓ Area supported by each stay 118.2 sq" Working pressure by Rules 128 lbs  
Tubes: Material iron ✓ External diameter { Plain 3 1/4 ✓ Thickness 8 W G ✓ No. of threads per inch 9 ✓  
Stay 3 ✓  
Pitch of tubes 4 1/2" x 4 3/8" ✓ Working pressure by Rules 5169. P 230 lbs Manhole compensation: Size of opening in  
shell plate 16" x 20" ✓ Section of compensating ring 7" x 15/16" ✓ No. of rivets and diameter of rivet holes 40 - 15/16" ✓  
Outer row rivet pitch at ends 6" ✓ Depth of flange if manhole flanged ✓ 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 of  
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 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 23 inclusive for boilers been complied with yes  
**RILEY BROS. (BOILERMAKERS) LIMITED.**  
The foregoing is a correct description,  
J. H. Shields SECRETARY, Manufacturer.

Dates of Survey { During progress of Jan 14-20-29 Feb 5-12-19-26 Mar 2-12-17-25 Are the approved plans of boiler and superheater forwarded herewith yes ✓  
work in shops - - Jan 29-30 Feb 9-21-28 May 5  
while building { During erection on board vessel - - -  
Total No. of visits 16

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
This boiler is a duplicate of builders No 5594. Rft No. 12423.  
This boiler has been constructed under  
Special Survey: is of good material and  
workmanship. On completion was tested  
by hydraulic pressure with satisfactory  
results.

Survey Fee ... .. £ 8 : 18 : - } MONTHLY A/c.  
Travelling Expenses (if any) £ : : } When applied for, 192  
When received, 192

W. H. Roberts  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute Feb 6 AU 1926  
Assigned See Sd J E rft No 29300