

# REPORT ON BOILERS.

No. 31083

Received at London Office

Date of writing Report

1932

When handed in at Local Office

4 NOV. 1932

Port of

Sunderland.

No. in  
Reg. Book

Survey held at

Sunderland.

Date, First Survey

Last Survey

31 Oct 1932

(Number of Visits

Gross

1314

Tons

Net

731

on the

"JOHN HOPKINSON."

Master

Built at

Sunderland.

By whom built

S.P. Austin &amp; Co. Ltd.

Yard No.

326

When built

1932

Engines made at

Sunderland.

By whom made

J. Dickinson &amp; Co. Ltd.

Engine No.

912

When made

1932

Boilers made at

Sunderland.

By whom made

J. Dickinson &amp; Co. Ltd.

Boiler No.

912

When made

1932

Nominal Horse Power

142.47

Owners

London Power Co. Ltd.

Port belonging to

London.

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

Manufacturers of Steel

Steel Company of Scotland.

(Letter for Record (S))

Total Heating Surface of Boilers

2240 sq ft

Is forced draught fitted

No.

Coal or Oil fired

Coal.

No. and Description of Boilers

1 Single Ended Multitubular

Working Pressure

200 lbs.

Tested by hydraulic pressure to

360 lbs.

Date of test

25-7-32

No. of Certificate

4136

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

61 sq ft

No. and Description of safety valves to each boiler

2 Spring loaded, High Lift.

Area of each set of valves per boiler

per valve

6.65 sq ft

Pressure to which they are adjusted

205

Are they fitted with easing gear

Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

No

Smallest distance between boilers

open floor

17"

Is oil fuel carried in the double bottom under boilers

No.

Smallest distance between shell of boiler and tank top

20"

Is the bottom of the boiler insulated

Yes.

Largest internal dia. of boilers

15'-6 3/16"

Length

10'-6"

Shell plates: Material

Steel

Tensile strength

28/32 Tms.

Thickness

1 1/32"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

Double Lap.

long. seams

T.R. Double butt strap

Diameter of rivet holes in

circ. seams

1 1/2"

Pitch of rivets

4"

Percentage of strength of circ. end seams

plate

62.5

rivets

51.6

Percentage of strength of circ. intermediate seam

plate

-

Percentage of strength of longitudinal joint

plate

85.1

rivets

96.2

combined

89.4

Working pressure of shell by Rules

200

Thickness of butt straps

outer 1 1/8"

inner 1 1/4"

No. and Description of Furnaces in each Boiler

3 Corrugated, Daylight Section.

Material

Steel

Tensile strength

26/30 Tms.

Smallest outside diameter

3'-10 3/16"

Length of plain part

top

bottom

Thickness of plates

crown 2 1/32"

bottom

Description of longitudinal joint

Weld.

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

Working pressure of furnace by Rules

200-26

End plates in steam space: Material

Steel

Tensile strength

26/30 Tms.

Thickness

1 1/32"

Pitch of stays

18 1/2" x 20 1/2"

How are stays secured

Nuts.

Working pressure by Rules

204.8

Tube plates: Material

Steel

Tensile strength

26/30 Tms.

Thickness

7/8"

Mean pitch of stay tubes in nests

11 3/4" x 9"

Pitch across wide water spaces

13 1/2"

Working pressure

front 206.6

back 218.8

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 Tms.

Depth and thickness of girder

at centre

7 1/2" x 2"

Length as per Rule

2'-8 3/16"

Distance apart

8 7/8"

No. and pitch of stays

in each

2 at 10 1/2"

Working pressure by Rules

210

Combustion chamber plates: Material

Steel

Tensile strength

28/32 Tms.

Thickness: Sides

2 1/32"

Back

2 1/32"

Top

2 1/32"

Bottom

2 1/32"

Pitch of stays to ditto: Sides

9 7/8" x 10 1/2"

Back

8 7/8" x 10 1/2"

Top

8 7/8" x 10 1/2"

Are stays fitted with nuts or riveted over

Nuts.

Working pressure by Rules

201.2

Front plate at bottom: Material

Steel

Tensile strength

26/30 Tms.

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26/30 Tms.

Thickness

2 1/32"

Pitch of stays at wide water space

13 1/4"

Are stays fitted with nuts or riveted over

Nuts.

Working Pressure

203.4

Main stays: Material

Steel

Tensile strength

28/32 Tms.

Diameter

At body of stay,

or

Over threads

3 1/4"

No. of threads per inch

6

Area supported by each stay

379.25 sq in

Working pressure by Rules

212

Screw stays: Material

Steel

Tensile strength

28/30 Tms.

Diameter

At turned off part,

or

Over threads

1 1/2"

No. of threads per inch

9

Area supported by each stay

87.9 sq in

002790-002797-0182

Lloyd's Register  
Foundation

Working pressure by Rules 206 Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, or Over threads 1 7/8" No. of threads per inch 9 Area supported by each stay 100.01 sq. Working pressure by Rules 212 Tubes: Material W.I. Lap welded External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 8 W.G. 5/16" No. of threads per inch 9 Pitch of tubes 4 1/2" Working pressure by Rules 213.5 Manhole compensation: Size of opening in end plate 16" x 12" Section of compensating ring No. of rivets and diameter of rivet holes Outer row rivet pitch at ends Depth of flange if manhole flanged 3 7/8" 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 22 inclusive for boilers been complied with No.

The foregoing is a correct description,  
W. H. Robertson Manufacturer.

Dates of Survey { During progress of work in shops - - - Please see Mach. Rpt. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) while building { During erection on board vessel - - - Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey. The materials & workmanship are good. On completion it was satisfactorily fitted in the vessel and examined under a full head of steam. The safety valves were adjusted under steam and the accumulation test found to be satisfactory. For notation, please see machinery report.

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

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

Committee's Minute FRI. 11 NOV 1932 Assigned See Mach. rpt attached