

## REPORT ON BOILERS.

No. 52676

Received at London Office 6 JUL 1932

Date of writing Report

19

When handed in at Local Office

1

7

19

32

Port of

Glasgow

No. in Reg. Book.

Survey held at

Glasgow

Date First Survey

29-9-31

Last Survey

27-6-

1932

(Number of Visits)

87

Gross

5415

Tons

Net

3243

on the

new steel 3/8" HARMANTERH

Master

Built at

Port Glasgow

By whom built

Lithgows Ltd

Yard No.

854

When built

943

Engines made at

Glasgow

By whom made

David Rowan &amp; Co Ltd

Engine No.

943

When made

1932

Boilers made at

Glasgow

By whom made

David Rowan &amp; Co Ltd

Boiler No.

943

When made

1932

Nominal Horse Power

502

Owners

J &amp; C. Harrison Ltd

Port belonging to

London

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

Manufacturers of Steel

Lithgows Ltd

(Letter for Record (r) )

Total Heating Surface of Boilers

5000 sq ft

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

Two single ended

K Any

Working Pressure

220 lbs

Tested by hydraulic pressure to

380

Date of test

2-5-32

No. of Certificate

19127

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

53.15 sq ft

No. and Description of safety valves to each boiler

Two improved high lift

Area of each set of valves per boiler

per Rule

8.86 sq ft

as fitted

9.82 sq ft

Pressure to which they are adjusted

225

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

2'0"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'6"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

15'3 1/16"

Length

11'6"

Shell plates: Material

steel

Tensile strength

29.33 tons

Thickness

1 15/32"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

DR

long. seams

DRS TR

Diameter of rivet holes in

circ. seams

F 1 3/8" B 1 1/2"

Pitch of rivets

F 3.43

B 4.083"

Percentage of strength of circ. end seams

plate

F 60. B 63.2

rivets

F 46.8 B 46.8

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

85.6

rivets

85.74

combined

88.3

Working pressure of shell by Rules

220

Thickness of butt straps

outer

1 3/4"

inner

1 3/4"

No. and Description of Furnaces in each Boiler

Three Deighton 30"

Material

steel

Tensile strength

26-30 tons

Smallest outside diameter

46 1/4"

Length of plain part

top

bottom

Thickness of plates

crown

3 3/4"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

238

End plates in steam space: Material

steel

Tensile strength

26-30 tons

Thickness

1 7/8"

Pitch of stays

19 x 21"

How are stays secured

DN

Working pressure by Rules

221

Tube plates: Material

front

steel

back

"

Tensile strength

26-30 tons

Thickness

15/16"

29/32"

Mean pitch of stay tubes in nests

9.6"

Pitch across wide water spaces

14"

Working pressure

front

228

back

236

Girders to combustion chamber tops: Material

steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

2 @ 9 7/8 x 7 1/8"

Length as per Rule

34.5"

Distance apart

9 7/8"

No. and pitch of stays

in each

3 @ 8 1/4"

Working pressure by Rules

220

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons

Thickness: Sides

27/32"

Back

27/32"

Top

27/32"

Bottom

27/32"

Pitch of stays to ditto: Sides

8 1/4 x 9 7/8"

Back

10 x 8"

Top

8 1/4 x 9 7/8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

220

Front plate at bottom: Material

steel

Tensile strength

26-30 tons

Thickness

15/16"

Lower back plate: Material

steel

Tensile strength

26-30 tons

Thickness

13/16"

Pitch of stays at wide water space

13 7/16"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

220

Main stays: Material

steel

Tensile strength

28-32 tons

Diameter

At body of stay,

3" &amp; 3 1/4"

No. of threads per inch

9 6

Area supported by each stay

3528 433 sq in

Working pressure by Rules

224 &amp; 220

Screw stays: Material

Iron

Tensile strength

21 1/2 tons

Diameter

At turned off part,

1 7/8"

No. of threads per inch

9

Area supported by each stay

80 sq in

Lloyd's Register

WS23-0195



Working pressure by Rules 266 Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part, 2" Over threads 2" No. of threads per inch 9 Area supported by each stay 96 sq" Working pressure by Rules 257 Tubes: Material Iron External diameter { Plain 3" Stay 3" Thickness { 8 W.G. 1/4" 5/16 3/8 No. of threads per inch 9 Pitch of tubes 4 3/16 x 4 7/8 Working pressure by Rules 250 Manhole compensation: Size of opening in shell plate 19 1/2 x 15 1/2 Section of compensating ring 10 1/2 x 1 1/2 No. of rivets and diameter of rivet holes 34 @ 1 1/2 Outer row rivet pitch at ends 10 7/16 Depth of flange if manhole flanged 3" Steam Dome: Material none Tensile strength Thickness of shell Description of longitudinal joint Diameter of rivet holes Pitch of rivets Percentage of strength of joint { Plate Rivets Thickness of crown No. and diameter of stays Working pressure by Rules 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 smoke tube Manufacturers of { Tubes See copy of NWC Cert. No 9932 Steel castings - Internal diameter and thickness of tubes - Number of elements - Material of tubes - 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 ☒ Working pressure as per Rules Area of each safety valve 1.77 sq" Are the safety valves fitted with easing gear ☒ Hydraulic test pressure: tubes - castings - and after assembly in place 440 0.88 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 ☒

The foregoing is a correct description,  
For David Rowan & Co. Ltd. Manufacturer.  
Arch. H. Grierson

Dates { During progress of work in shops - - } 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 1

Is this Boiler a duplicate of a previous case ☒ If so, state Vessel's name and Report No. 915 Harmaurus. G.L. Rpt No 52550

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

The materials and workmanship are good.  
The boilers have been constructed under Special Survey in accordance with the Rules. Satisfactorily fitted in the vessel and their safety valves adjusted under steam.

Survey Fee ... £ When applied for, 19  
Travelling Expenses (if any) £ When received, 19

S. J. Davis.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 5 - JUL 1932

Assigned SEE ACCOMPANYING MACHINERY REPORT.