

# REPORT ON BOILERS.

No. 54172

31 JAN 1934

Received at London Office

When handed in at Local Office

29.1.1934

Port of

Glasgow

Date, First Survey

8.8.33

Last Survey

25-1-

1934

(Number of Visits

78

Tons

Gross

5082

Net

3036

on the new steel S/S "HARPASA"

Built at

Port Glasgow

By whom built

Lithgows Ltd

Yard No.

864

When built

1934

By whom made

Daniel Rowan & Co Ltd

Engine No.

961

When made

1934

By whom made

Daniel Rowan & Co Ltd

Boiler No.

961

When made

1934

Owners

J & C Harrison (Ings)

Port belonging to

London

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

Manufacturers of Steel

Lochmiller Ltd

(Letter for Record (T))

Total Heating Surface of Boilers

1706 sq ft

Is forced draught fitted

yes

Coal or Oil fired

coal

Description of Boilers

one single ended

Working Pressure

220

Tested by hydraulic pressure to

380

Date of test

20-10-33

No. of Certificate

19297

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

48 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 4.5370

Pressure to which they are adjusted

225

Are they fitted with easing gear

yes

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

no

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

13'-0"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

29-33 tons

Thickness

1 1/4"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

inter.

end

DR

Long. seams

DRS. TR

Diameter of rivet holes in

circ. seams

1 1/16"

long. seams

1 9/16"

Pitch of rivets

9"

Percentage of strength of circ. end seams

plate

F63. B63.3

rivets

F43.7. B44.9

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

85.4

rivets

90.7

combined

Working pressure of shell by Rules

222

Thickness of butt straps

outer 15/16"

inner 1 1/8"

No. and Description of Furnaces in each Boiler

Three Deighton

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

36.218"

Length of plain part

top

bottom

Thickness of plates

coron

bottom

39"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

245

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1 7/32"

Pitch of stays

18" x 15 1/2"

How are stays secured

DN

Working pressure by Rules

220

Tube plates: Material

front Steel

back "

Tensile strength

26-30 tons

Thickness

15/16"

25/32"

Lean pitch of stay tubes in nests

9 1/2"

Pitch across wide water spaces

14"

Working pressure

front 229

back 242

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

Distance apart

20 7/8" x 7/8"

Length as per Rule

31.56"

Distance apart

8"

No. and pitch of stays

Each

20 10"

Working pressure by Rules

221

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

2 1/2"

Back

2 1/2"

Top

2 1/2"

Bottom

2 1/2"

Bottom

2 1/2"

2 1/2"

Pitch of stays to ditto: Sides

10 x 8"

Back

8 1/2 x 8"

Top

10 x 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

1 1/2"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

1 1/2"

Pitch of stays at wide water space

13 1/2"

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

2 3/4"

No. of threads per inch

6

Area supported by each stay

280 sq"

Working pressure by Rules

233

Screw stays: Material

Iron

Tensile strength

21 1/2 tons

Diameter

At turned off part

1 3/4" x 1 1/8"

No. of threads per inch

9

Area supported by each stay

68 & 80 sq"

Diameter

Over threads

1 3/4" x 1 1/8"

No. of threads per inch

9

Area supported by each stay

68 & 80 sq"

Working pressure by Rules 266 & 266 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 7/8" or Over threads 1 7/8"  
No. of threads per inch 9 Area supported by each stay 830" Working pressure by Rules 257  
Tubes: Material Iron External diameter { Plain 3" Stay 3" Thickness { 8 W.G. 1/4" 5/16" 3/8" 7/16" No. of threads per inch 9  
Pitch of tubes 4 3/16" x 4 1/8" Working pressure by Rules 250 Manhole compensation: Size of opening  
shell plate 19 1/2" x 15 1/2" Section of compensating ring 9 1/2" x 1 1/4" No. of rivets, and diameter of rivet holes 34 @ 1 5/16"  
Outer row rivet pitch at ends 9" 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  
Internal diameter Working pressure by Rules Thickness of crown No. and diameter of stays  
How connected to shell Inner radius of crown Working pressure by Rules  
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 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

The foregoing is a correct description,  
For David Rowan & Co. Ltd. Manufacturers  
Arch. H. Friers and

Dates of Survey { 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 - - -  
SEE ACCOMPANYING MACHINERY REPORT

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. "Harburg" Gl. Rpt. No. 53960

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

The workmanship and materials are good.  
The boiler has been constructed under special survey, satisfactorily fitted in the vessel and its safety valves adjusted under steam.

Survey Fee ... £ See Irish Rpt. When applied for, 19  
Travelling Expenses (if any) £ 0.5 When received, 19

S. C. D. and

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 30 JAN 1934

Assigned SEE ACCOMPANYING MACHINERY REPORT.



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Lloyd's Register Foundation

Rpt. 13.

REP

Date of writing R

No. in Sur Reg. Book.

39926 on t

Built at B.

Owners N.A.

Electric Lig

Is the Vessel

System of D

Pressure of st

Direct or Alt

If alternating

Has the Auto

Generators,

are they over c

Where more th

series with each

Are all termin

short circuited

Position of

is the ventilat

if situated n

are their axes

Earthing, a

their respecti

Main Switc

a fuse on each

Switchboar

are they prot

woodwork or

are they cons

permanently

with mica on

and is the fi

bars

Main Swi

Generato

S. P. pow

Instrumen

Earth Te

on ea

Switches,

Joint Bo