

## REPORT ON BOILERS.

No. 57965

7.12.

9.20

06.30.31

Received at London Office

10 FEB 1937

Date of writing Report

10

When handed in at Local Office

1-2-1037

Port of

Glasgow

No. in Reg. Book.

Survey held at

Glasgow

Date, First Survey

24.4.36

Last Survey

27-1-1937

on the

new steel S/S "DARLENY".

(Number of Visits)

Tons

Gross 5205

Net 3126

Master

Built at

Port Glasgow

By whom built

Wm Hamilton &amp; Co Ltd

Yard No. 427

When built 1936

Engines made at

Glasgow

By whom made

Davie Rowan &amp; Co Ltd

Engine No. 1001

When made 1936

Boilers made at

Glasgow

By whom made

Davie Rowan &amp; Co Ltd

Boiler No. 1001

When made 1936

Nominal Horse Power

422

Owners

Douglas &amp; Ramsey

Port belonging to

Glasgow

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

Manufacturers of Steel

A. Shillies Ltd

(Letter for Record (S) )

Total Heating Surface of Boilers

4750 sq ft

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

Two single ended

Working Pressure

220

Tested by hydraulic pressure to

380

Date of test

11-9-36

No. of Certificate

19806

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

49.5 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

6.316

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

18"

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'-0"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

29-33 tons

Thickness

1 1/16"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

WR

long. seams

DBS TR

Diameter of rivet holes in

circ. seams

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

Pitch of rivets

F 3.413 B 4.1

end

10 1/4"

Percentage of strength of circ. end seams

plate

F 59.7 B 63.4

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

85.36

Working pressure of shell by Rules

220

Thickness of butt straps

outer

1 3/32"

No. and Description of Furnaces in each Boiler

Three Deighton 30hp

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

45.375"

Length of plain part

top

1 1/2"

Thickness of plates

crown

1 1/16"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

222

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1 1/32"

Pitch of stays

19 1/4" x 19 3/4"

How are stays secured

DN

Working pressure by Rules

222

Tube plates: Material

front

Steel

Tensile strength

26-30 tons

Thickness

7/8"

Mean pitch of stay tubes in nests

9 1/4"

Pitch across wide water spaces

13 1/2"

Working pressure

front

224

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

2 @ 10 1/8" x 7/8"

Length as per Rule

34.53"

Distance apart

10 9/8"

No. and pitch of stays

in each

3 @ 8 1/4"

Working pressure by Rules

222

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

3/4"

Back

23/32"

Top

3/4"

Bottom

1 3/16"

Pitch of stays to ditto: Sides

10" x 8 1/4"

Back

10" x 8"

Top

10 9/8" x 8 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

221

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

53/64"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

226

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

At body of stay,

3 1/4" &amp; 3"

No. of threads per inch

6

Area supported by each stay

407 &amp; 332 sq"

Working pressure by Rules

228 &amp; 236 sq"

Screw stays: Material

Steel

Tensile strength

26-30 tons

Diameter

At turned off part,

3/4" &amp; 1 1/8"

No. of threads per inch

9

Area supported by each stay

80 &amp; 87.5 sq"



Working pressure by Rules 226 & 244 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 17/8" or Over threads }  
No. of threads per inch 9 Area supported by each stay 94 sq" Working pressure by Rules 227 U  
Tubes: Material Iron External diameter { Plain 23" Stay 23" Thickness { 5/16" 3/8" 7/16" No. of threads per inch 9  
Pitch of tubes 3 5/8" x 3 3/4" Working pressure by Rules 300 lb Manhole compensation: Size of opening in  
shell plate 15 1/2" x 19 1/2" Section of compensating ring 10 1/2" x 1 1/16" No. of rivets and diameter of rivet holes 34 @ 1 1/2"  
Outer row rivet pitch at ends 10 1/4" 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 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 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  
Arch. H. Grierson Manufacturer.

Dates { During progress of work in shops - - }  
of Survey while { During erection on board vessel - - - }

Are the approved plans of boiler and superheater forwarded herewith  
(If not state date of approval.)

SEE ACCOMPANYING MACHINERY REPORT.

Total No. of visits

Is this Boiler a duplicate of a previous case no If so, state Vessel's name and Report No. -

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 satisfactorily fitted in the vessel and their safety valves adjusted under steam.

1/2/37

Survey Fee ... £ sample Rpt When applied for, 19  
Travelling Expenses (if any) £ 58-85 When received, 19

S. C. Davis

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 9 FEB 1937

Assigned SEE ACCOMPANYING MACHINERY REPORT.



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