

Rpt. 5a.

## REPORT ON BOILERS.

No. 48144

Date of writing Report 26-6-1928

1928

When handed in at Local Office 26-6-1928

Received at London Office

4.11.1928

No. in  
Reg. Book.

Surrey held at

Glasgow

Port of Glasgow

Date, First Survey 19.10.27

Last Survey 25.6.1928

1928

on the new steel S/S "CAPE ST GEORGE",

(Number of Visits 488)

Gross  
Tons  
Net

Master

Built at Port Glasgow

By whom built

R. Duncan &amp; Co. Ltd

Yard No. 382

When built 1928

Engines made at

Glasgow

By whom made

David Rowan &amp; Co. Ltd

Engine No. 869

When made 1928

Boilers made at

Glasgow

By whom made

David Rowan &amp; Co. Ltd

Boiler No. 869

When made 1928

Nominal Horse Power

545

Owners

Sun Shipping Co. Ltd

Port belonging to

London

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

Manufacturers of Steel

David Colville &amp; Sons Ltd, James Dunlop &amp; Co. Ltd

(Letter for Record (S))

Total Heating Surface of Boilers

8001 sq ft

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

Three single ended marine (3SB)

Working Pressure

200

Tested by hydraulic pressure to

350

Date of test

4-2-28

No. of Certificate

17772

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

57.5 sq ft

No. and Description of safety valves to each boiler

Improved high lift

Area of each set of valves per boiler

per Rule 2.250"

as fitted 2 1/2"

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

Smallest distance between boilers or uptakes and bunkers or woodwork (corner)

6"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-10"

Is the bottom of the boiler insulated

yes

Mean internal dia. of boilers

16'-0"

Length

11'-0"

Shell plates: Material

Steel

Tensile strength

28-30 tons

Thickness

1 3/4"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end DR

Long. seams

DBS.T.R.

Diameter of rivet holes in

circ. seams

F 1 9/16", B 1 1/2"

Pitch of rivets

F 3.388", B 4.131"

Percentage of strength of circ. end seams

plate

F 61.3, B 63.7

rivets

F 45.15, B 48.3

Percentage of strength of circ. intermediate seam

plate

85.18

rivets

92.4

Percentage of strength of longitudinal joint

plate

85.18

rivets

92.4

combined

88.86

Working pressure of shell by Rules

202

Thickness of butt straps

outer 1 3/4"

inner 1 1/2"

No. and Description of Furnaces in each Boiler

Three Weymouth

Material

steel

Tensile strength

26-30 tons

Smallest outside diameter

47 5/16"

Length of plain part

top

bottom

Thickness of plates

crown

3 1/2"

bottom

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

203

Girders in steam space: Material

steel

Tensile strength

26-30 tons

Thickness

1 7/16"

Pitch of stays

23 1/2" x 22 1/2"

How are stays secured

D.N.

Girders plates: Material

front steel

back "

Tensile strength

26-30 tons

Working pressure by Rules

200

Thickness

2 7/32"

Pitch of stay tubes in nests

9 1/2"

Pitch across wide water spaces

13 1/2"

Working pressure

front 207

back 215

Girders to combustion chamber tops: Material

steel

Tensile strength

28-32 tons

Depth and thickness of girder

centre

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

Length as per Rule

33 9/16"

Distance apart

each

3 @ 8"

Working pressure by Rules

201

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons

Thickness: Sides

2 1/32"

Back

2 1/32"

Top

2 1/32"

Bottom

7/8"

Pitch of stays to ditto: Sides

8" x 9 1/4"

Back

8 1/16" x 8 7/8"

Top

8" x 9 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

200

Front plate at bottom: Material

steel

Tensile strength

26-30 tons

Thickness

2 7/32"

Lower back plate: Material

steel

Tensile strength

26-30 tons

Thickness

13/16"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

201

Main stays: Material

steel

Tensile strength

28-32 tons

At body of stay, or over threads

2 3/4" &amp; 3 1/4"

No. of threads per inch

6

Area supported by each stay

455.6 &amp; 279.2 sq in

Working pressure by Rules

203

Screw stays: Material

steel

Tensile strength

26-30 tons

At turned off part, or over threads

1 5/8" &amp; 1 7/8" (back)

No. of threads per inch

9

Area supported by each stay

74.8 &amp; 97.6 sq in

W368-0121



Working pressure by Rules 204 & 218 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 103 0" Working pressure by Rules 206 Tubes: Material Iron External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 9 1/16" 7/8" 7/16" No. of threads per inch 9 Pitch of tubes 3 3/4" x 3 7/8" Working pressure by Rules 230 Manhole compensation: Size of opening shell plate 15 1/2" x 19 1/2" Section of compensating ring 10 1/2" x 1 29/32" No. of rivets and diameter of rivet holes 34 @ 1 1/2" Outer row rivet pitch at ends 10 1/2" Depth of flange if manhole flanged 3" Steam Dome: Material none Tensile strength 580 Thickness of shell 7 Description of longitudinal joint Diameter of rivet holes 5 1/8" Pitch of rivets 4 1/2" Percentage of strength of joint { Plate Rivets 85 Internal diameter 8 1/2" Working pressure by Rules Thickness of crown No. and diameter stays 8 1/2" Inner radius of crown Working pressure by Rules How connected to shell Size of doubling plate under dome Diameter of rivet holes and 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 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 Rules Pressure to which the safety valves are adjusted Hydraulic test press tubes castings and after assembly in place Are drain cocks or valves to free the superheater from water where necessary Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with yes

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

Dates of Survey { During progress of work in shops - - - See Accompanying Machy Report 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 4 x 8

### 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.

It is submitted that  
this vessel is eligible for  
THE RECORD.

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

S. C. Davis

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW 3 - JUL 1928

Assigned See accompanying Machy Report. W. M.