

Rpt. 5a.

# REPORT ON BOILERS.

No. 49280

Date of writing Report

192

When handed in at Local Office

3. 6. 29

1929

Port of

Received at London Office

1929

5 JUN 1929

No. in Survey held at

Reg. Book.

Glasgow

Date, First Survey

1. 11. 28

Last Survey

31. 5. 29

1929

on the

new steel S/S "BEN WYVIS".

(Number of Visits

6721)

Gross Tons

Net

Master

Built at

Glasgow

By whom built

Blasbomnell & Co. Ltd

Yard No. 414

When built 1929

Engines made at

Glasgow

By whom made

David Rowan & Co. Ltd

Engine No. 900

When made 1929

Boilers made at

Glasgow

By whom made

David Rowan & Co. Ltd

Boiler No. 900

When made 1929

Nominal Horse Power

675

Owners

Ben Line Steamers Ltd

Port belonging to

Leith.

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

Manufacturers of Steel

Gutehoffnungshütte A.G. Oberhausen.

Wrappers plates by

(Letter for Record (S) ✓)

Total Heating Surface of Boilers

87300 sq ft

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

3. S. B. Three single ended

Working Pressure

220

Tested by hydraulic pressure to

380

Date of test

20. 4. 29

No. of Certificate

18261

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

71.5 sq ft

No. and Description of safety valves to each boiler

two high lift. Improved

Area of each set of valves per boiler

per Rule 7.75 sq ft

as fitted

9.8 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

7' 6"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2' 3"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

16' 0"

Length

12' 6"

Shell plates: Material

steel

Tensile strength

30.34 tons

Thickness

1 3/16"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

and DR

long. seams

DR S. TR

Diameter of rivet holes in

circ. seams

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

Pitch of rivets

F 3.416" B 4.16"

10 1/2"

Percentage of strength of circ. end seams

plate

F 60. B 63.9

Percentage of strength of circ. intermediate seam

plate

F 45 B 44.4

Percentage of strength of longitudinal joint

plate

85.1

Percentage of strength of longitudinal joint

plate

87.8

Working pressure of shell by Rules

222

Thickness of butt straps

outer 1 1/2"

inner 1 1/2"

No. and Description of Furnaces in each Boiler

4 Deighton

Material

steel

Tensile strength

26.30 tons

Smallest outside diameter

40 3/32"

Length of plain part

top

bottom

Thickness of plates

top 3/4"

bottom 3/4"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

221

End plates in steam space: Material

steel

Tensile strength

26.30 tons

Thickness

1 1/2"

Pitch of stays

21 1/2" x 21 1/2"

How are stays secured

DN

Working pressure by Rules

222

Tube plates: Material

front steel

back "

Tensile strength

26.30 tons

Thickness

1 1/2"

7/8"

Mean pitch of stay tubes in nests

9.9"

Pitch across wide water spaces

14"

Working pressure

front 222

back 282

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 1/8"

Length as per Rule

37 1/2"

Distance apart

9"

No. and pitch of stays

in each

3 @ 9"

Working pressure by Rules

222

Combustion chamber plates: Material

steel

Tensile strength

26.30 tons

Thickness: Sides

3/4"

Back

1 1/2"

Top

3/4"

Bottom

2 1/2"

Pitch of stays to ditto: Sides

9 x 9"

Back

8 1/2 x 8 1/4"

Top

9 x 9"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

224

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 1/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

223

Main stays: Material

steel

Tensile strength

28.32 tons

Diameter

At body of stay, or Over threads

3 1/2" & 3 1/2"

No. of threads per inch

6

Area supported by each stay

470 sq in & 425 sq in

Working pressure by Rules

230 & 222

Screw stays: Material

steel

Tensile strength

26.30 tons

Diameter

At turned off part, or Over threads

1 7/8" & 1 3/4"

No. of threads per inch

9

Area supported by each stay

68 sq in & 82 sq in



Working pressure by Rules 224 & 272 Are the stays drilled at the outer ends *m* Margin stays: Diameter { At turned off part, or Over threads *17/8"*  
No. of threads per inch *9* Area supported by each stay *94.3"* Working pressure by Rules *226*  
Tubes: Material *Iron* External diameter { Plain *3 1/2* Thickness *8 W.S.* No. of threads per inch *9*  
Pitch of tubes *4 1/16 & 4 3/8* Working pressure by Rules *230* Manhole compensation: Size of opening in  
shell plate *19 1/2 x 15 1/2* Section of compensating ring *10 1/2 x 1 3/4* No. of rivets and diameter of rivet holes *34 @ 1 9/16*  
Outer row rivet pitch at ends *10 1/2* Depth of flange if manhole flanged *3* Steam Dome: Material *none*  
Tensile strength *N/A* Thickness of shell *8 W.S.* Description of longitudinal joint  
Diameter of rivet holes *0.00* Pitch of rivets *0.00* Percentage of strength of joint { Plate Rivets  
Internal diameter *0.00* Working pressure by Rules Thickness of crown No. and diameter of  
stays *0.00* 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 *In particulars see Nuc Rpt*  
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 *yes* Is a safety valve fitted to every part of the superheater which can be shut off from the boiler *yes*  
Area of each safety valve *1.770"* Are the safety valves fitted with easing gear *yes* Working pressure as per  
Rules Pressure to which the safety valves are adjusted *227* Hydraulic test pressure:  
tubes *castings* and after assembly in place *440* Are drain cocks or valves fitted  
to free the superheater from water where necessary *yes*  
Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with *yes*

The foregoing is a correct description,  
For David Royan & Co. L<sup>td</sup>  
Arch<sup>ts</sup> H. Grierson, Manufacturer.

Dates of Survey { During progress of work in shops - - *See Accompanying*  
while building { During erection on board vessel - - *mach report*  
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
Total No. of visits *67*

#### 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 ... £ *See mach Rpt* When applied for, 192  
Travelling Expenses (if any) £ *See mach Rpt* When received, 192

Committee's Minute *GLASGOW 4 JUN 1929*

Assigned *See Accompanying mach Report*

Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register  
Foundation