

REPORT ON BOILERS.

No. 58056

SEP 16 1937

Received at London Office 17 FEB 1937

Date of writing Report

19

When handed in at Local Office

15. 2. 1937

Port of

Glasgow

No. in Survey held at

Glasgow

Date, First Survey

12. 11. 36

Last Survey

11-2-

1937

Reg. Book.

(Number of Visits 10)

Gross 662

Tons Net 284

on the

S/S "DONAGHADEE"

Master

Built at

Glasgow

By whom built

A & J Inglis Ltd

Yard No. 998

When built 1937

Engines made at

Hydebank

By whom made

Aitchison Blair Ltd

Engine No. 207

When made 1937

Boilers made at

Glasgow

By whom made

David Rowan & Co Ltd

Boiler No. 425

When made 1937

Nominal Horse Power

104

Owners

John Kelly Ltd

Port belonging to

Belfast

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

L. & L. Ltd

(Letter for Record (S) ✓)

Total Heating Surface of Boilers

1834 sq ft ✓

Is forced draught fitted

no ✓

Coal or Oil fired

coal ✓

No. and Description of Boilers

one single ended ✓

Working Pressure 200 ✓

Tested by hydraulic pressure to

350

Date of test

11-2-37

No. of Certificate

19894

Can each boiler be worked separately

—

Area of Firegrate in each Boiler

56.4 sq ft

No. and Description of safety valves to each boiler

Two ordinary spring loaded

Area of each set of valves per boiler

per Rule

10.69 sq ft

as fitted

11.88 sq ft

Pressure to which they are adjusted

200 lb

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

4'-0" ✓

Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Largest internal dia. of boilers

14'-0" ✓

Length

10'-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

end DR

long. seams

DBS TR ✓

Diameter of rivet holes in

circ. seams

F 1 3/16" B 1 5/16" ✓

long. seams

1 7/16" ✓

Pitch of rivets

F 3-2

B 3-57 ✓

8 3/4" ✓

Percentage of strength of circ. end seams

plate

F 62.9 B 63.2

rivets

F 43.8 B 48.2

Percentage of strength of circ. intermediate seam

plate

—

rivets

Percentage of strength of longitudinal joint

plate

— 85

rivets

91.5

combined

88.4

Working pressure of shell by Rules

202

Thickness of butt straps

outer 6 1/4" ✓

inner 1 5/16" ✓

No. and Description of Furnaces in each Boiler

Three Heighton 30" ✓

Material

steel

Tensile strength

26-30 tons ✓

Smallest outside diameter

42.156" ✓

Length of plain part

top

Thickness of plates

crown

37" ✓

bottom

6 1/4" ✓

Description of longitudinal joint

welded ✓

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

Working pressure of furnace by Rules

199

End plates in steam space: Material

steel ✓

Tensile strength

26-30 tons ✓

Thickness

1 3/16" ✓

Pitch of stays 19 3/4" x 16 1/4"

How are stays secured

DN

Working pressure by Rules

200

Tube plates: Material

front steel

back

Tensile strength

26-30 tons

Thickness

25 1/2" ✓

25 1/2" ✓

Mean pitch of stay tubes in nests

10 3/32" ✓

Pitch across wide water spaces

14 1/4" ✓

Working pressure

front 202

back 214

Girders to combustion chamber tops: Material

steel

Tensile strength

28-32 tons ✓

Depth and thickness of girder

at centre

2 @ 7 3/4" x 7 1/8" ✓

Length as per Rule

31.5625 ✓

Distance apart

9" ✓

No. and pitch of stays

in each

2 @ 10" ✓

Working pressure by Rules

204

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons ✓

Thickness: Sides

2 3/32" ✓

Back

2 1/32" ✓

Top

2 3/32" ✓

Bottom

2 3/32" ✓

Pitch of stays to ditto: Sides

9" x 10" ✓

Back

9 1/4" x 8" ✓

Top

9" x 10" ✓

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 9/32" ✓

Lower back plate: Material

steel

Tensile strength

26-30 tons ✓

Thickness

2 5/32" ✓

Pitch of stays at wide water space

13 1/2" ✓

Are stays fitted with nuts or riveted over

nuts ✓

Working Pressure

200

Main stays: Material

steel

Tensile strength

28-32 tons ✓

Diameter

At body of stay, 2 3/4" ✓

Over threads

No. of threads per inch

6

Area supported by each stay

322 sq in ✓

Working pressure by Rules

203

Screw stays: Material

S

Tensile strength

26-30 tons ✓

Diameter

At turned off part, 1 7/8", 1 3/4", 1 7/8", 2" ✓

Over threads

No. of threads per inch

9

Area supported by each stay

74.90, 101.8, 123.0" ✓

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Working pressure by Rule 205, 205.211 & 100 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 3/4" or Over threads }
No. of threads per inch 9 Area supported by each stay 90.20" Working pressure by Rules 201
Tubes: Material Steel External diameter { Plain 3/4" Stay 3/4" Thickness { 8 W.G. 5/16" & 3/8" No. of threads per inch 9
Pitch of tubes 4 3/8" x 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 9 1/2" x 1 7/16" No. of rivets and diameter of rivet holes 34 @ 1 5/16"
Outer row rivet pitch at ends 9 1/8" 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 W.G. 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

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

Dates of Survey { During progress of work in shops - - - } 1936 Nov: 12 Dec: 2, 10, 21, 23 Are the approved plans of boiler and superheater forwarded herewith yes
(If not state date of approval.)
while building { During erection on board vessel - - - } (1937) Jan: 11, 12 Feb: 5, 10, 11 Total No. of visits 10

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. "Grossgar" E.R. No. 57368.

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

The materials and workmanship are good.
The boiler has been constructed under Special Survey. It will be fitted on board
the vessel at Glasgow.

15/2/37

Glasgow 13-9-37 - The boiler has been satisfactorily fitted in the vessel
and its safety valves adjusted under steam.
See E.R. Rpt. No. 58845.

1119.

Survey Fee ... £ 12 : 4 :

Travelling Expenses (if any) £ : :

When applied for,

When received, Lt. 8. 19 37

16 FEB 1937

per Lm. ltr.)

S. Schwan

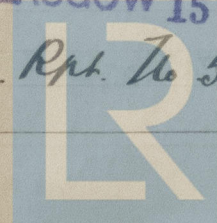
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 16 FEB 1937

Assigned TRANSMIT TO LONDON

GLASGOW 15 SEP 1937

See E.R. Rpt. No. 58845



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