

# REPORT ON BOILERS.

No. 58752

SEP -1 1937

Received at London Office

Date of writing Report

19

When handed in at Local Office

28. 8. 1937

Port of

Glasgow.

No. in Reg. Book.

Survey held at

Glasgow.

Date, First Survey

2. 11. 36

Last Survey

24-8-

1937

(Number of Visits 15)

Gross 11162

Net 6634

3943. on the

M.V. Dunoon

Master

Built at

Glasgow

By whom built

Barday hule & Co Ltd

Yard No. 663

When built 1934

Engines made at

Glasgow

By whom made

Barday hule & Co Ltd

Engine No. 663

When made 1934

Boilers made at

Glasgow.

By whom made

Barday Curle & Wood

Boiler No. 663

When made 1937

Nominal Horse Power

189.

Owners

Port belonging to

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

Manufacturers of Steel

B Colville & Son

(Letter for Record

(5) ✓

Total Heating Surface of Boilers

2832 sq ft

Is forced draught fitted

EXH: HEAT OF

Coal or Oil fired

Yes ✓

No. and Description of Boilers

2. Oil fired and Exhaust Steam ✓

Working Pressure

100 lbs

Tested by hydraulic pressure to

200 lbs

Date of test

30/3/37

No. of Certificate

19935

Can each boiler be worked separately

✓

Area of Firegrate in each Boiler

✓

No. and Description of safety valves to each boiler

2 Improved High Lift ✓

Area of each set of valves per boiler

per Rule 1.08

as fitted 1.96

Pressure to which they are adjusted

100 lbs

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

Will clear ✓

Is oil fuel carried in the double bottom under boilers

Yes ✓

Smallest distance between shell of boiler and tank top plating

1 1/2" ✓

Is the bottom of the boiler insulated

Yes ✓

Largest internal dia. of boilers

10'-6" ✓

Length

11'-0" ✓

Shell plates: Material

Steel

Tensile strength

29/33 Tons ✓

Thickness

17/32" ✓

Are the shell plates welded or flanged

NO ✓

Description of riveting: circ. seams

end D.R ✓

long. seams

D.R-D.B.S. ✓

Diameter of rivet holes in

circ. seams 13/16" ✓

long. seams 3/4" ✓

Pitch of rivets

2.92" ✓

4" ✓

Percentage of strength of circ. end seams

plate 42.2 ✓

rivets 52.93 ✓

Percentage of strength of circ. intermediate seam

plate ✓

rivets ✓

Percentage of strength of longitudinal joint

plate 81.25 ✓

rivets 92.41 ✓

Working pressure of shell by Rules

102 lbs ✓

Thickness of butt straps

outer 7/16" ✓

inner 9/16" ✓

No. and Description of Furnaces in each Boiler

1. DEIGHTON. ✓

Material

STEEL ✓

Tensile strength

26-30 TONS ✓

Smallest outside diameter

3'-3 1/4" ✓

Length of plain part

top ✓

Thickness of plates

bottom 3/8" ✓

Description of longitudinal joint

WELD ✓

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

✓

Working pressure of furnace by Rules

100 lbs ✓

End plates in steam space: Material

STEEL ✓

Tensile strength

26-30 TONS ✓

Thickness

3/4" ✓

Pitch of stays 14" x 17" ✓

How are stays secured

D.N. ✓

Working pressure by Rules

113 lbs ✓

Tube plates: Material

front STEEL ✓

back STEEL ✓

Tensile strength

26-30 TONS ✓

Thickness

5/8" ✓

Mean pitch of stay tubes in nests

10 7/16" ✓

Pitch across wide water spaces

13 3/8" ✓

Working pressure

front 104 lbs ✓

back 126 " ✓

Girders to combustion chamber tops: Material

STEEL ✓

Tensile strength

28-32 TONS ✓

Depth and thickness of girder

at centre

4 3/4" x 9 1/16" dble ✓

Length as per Rule

2'-8 27/32" ✓

Distance apart

10 1/2" ✓

No. and pitch of stays

in each

2 @ 10" ✓

Working pressure by Rules

102 lbs ✓

Combustion chamber plates: Material

STEEL ✓

Tensile strength

26-30 TONS ✓

Thickness: Sides

9/16" ✓

Back

9/16" ✓

Top

17/32" ✓

Bottom

9/16" ✓

Pitch of stays to ditto: Sides

10 1/2" x 10" ✓

Back

10" x 9" ✓

Top

10 1/2" x 10" ✓

Are stays fitted with nuts or riveted over

NUTS ✓

Working pressure by Rules

103 lbs ✓

Front plate at bottom: Material

STEEL ✓

Tensile strength

26-30 TONS ✓

Thickness

5/8" ✓

Lower back plate: Material

STEEL ✓

Tensile strength

26-30 TONS ✓

Thickness

19/32" ✓

Pitch of stays at wide water space

13" ✓

Are stays fitted with nuts or riveted over

NUTS ✓

Working Pressure

108 lbs ✓

Main stays: Material

STEEL ✓

Tensile strength

28-32 TONS ✓

Diameter

At body of stay, 2" ✓

or Over threads

No. of threads per inch

6 ✓

Area supported by each stay

238 sq " ✓

Working pressure by Rules

110 lbs ✓

Screw stays: Material

STEEL ✓

Tensile strength

26-30 TONS ✓

Diameter

At turned off part, 1 3/8" - 1 1/2" ✓

or Over threads

No. of threads per inch

9 ✓

Area supported by each stay

105 sq " ✓



Working pressure by Rules 112 lbs Are the stays drilled at the outer ends NO Margin stays: Diameter  $\left\{ \begin{array}{l} \text{At turned off part, } 1\frac{1}{2}'' \\ \text{or} \\ \text{Over threads } 1\frac{1}{2}'' \end{array} \right.$

No. of threads per inch 9 Area supported by each stay 103\frac{1}{2}'' Working pressure by Rules 118 lbs

Tubes: Material WT. IRON External diameter  $\left\{ \begin{array}{l} \text{Plain } 1\frac{3}{4}'' - 3'' \\ \text{Stay } 3'' \end{array} \right.$  Thickness  $\left\{ \begin{array}{l} 11 \text{ WG} - 10 \text{ WG} \\ 1/4'' - 3/8'' \end{array} \right.$  No. of threads per inch 9

Pitch of tubes 4\frac{1}{4}'' x 4\frac{1}{8}'' and 2\frac{7}{8}'' x 2\frac{3}{4}'' Working pressure by Rules 140 lb - 140 lb Manhole compensation: Size of opening in shell plate 20'' x 16'' Section of compensating ring 6\frac{1}{2}'' x 1\frac{1}{32}'' No. of rivets and diameter of rivet holes 44 - 1''

Outer row rivet pitch at ends 5\frac{1}{4}'' Depth of flange if manhole flanged 3\frac{1}{2}'' Steam Dome: Material

Tensile strength \_\_\_\_\_ Thickness of shell \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_

Diameter of rivet holes \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Percentage of strength of joint  $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$

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 \_\_\_\_\_ Manufacturers of  $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$

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 BARCLAY, CURLE & CO. LTD**  
*Alexander Macnair* Manufacturer

Dates of Survey  $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - - -} \end{array} \right. \end{array} \right.$  1936 Nov: 2, 6, 17 Dec: 7, 23  
 1937 Jan: 13, 29 Feb: 10, 15, 19, 26 Mar: 1, 2, 30 Aug: 24

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

Total No. of visits 15

Is this Boiler a duplicate of a previous case yes. If so, state Vessel's name and Report No. DILWARA, GLS No 56522.

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) These boilers have been built under Special Survey, to approved plans in accordance with the Society's Rules. Materials and workmanship are good. They are intended for use as oil and or waste heat boilers in M<sup>rs</sup> Barclay Curle & Co's No 663.

These boilers have been efficiently secured in position on board. The Safety valves have been adjusted and the boilers examined under Steam and found in order.

*H 28/8/37*

Survey Fee ... £ 18/18/0 When applied for, 23 AUG 1937  
 Travelling Expenses (if any) £ \_\_\_\_\_ When received, 29.9 1937

*H. Sutherst*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 31 AUG 1937**  
 Assigned SEE ACCOMPANYING MACHINERY REPORT.

