

REPORT ON BOILERS.

No. 62783

Received at London Office

Date of writing Report

19

When handed in at Local Office

9. 9. 40

Port of GLASGOW

No. in
Reg. Book.

Survey held at

Glasgow

Date, First Survey

1940 Feb 15th

Last Survey

2nd Sept. 1940

(Number of Visits

13)

Tons

Gross

6827.5

Net

on the

"EMPIRE LIGHT"

Built at

Glasgow

By whom built

Barclay Curle & Co. Ltd.

Yard No. 677

When built 1940

Engines made at

-do-

By whom made

-do-

Engine No. 677

When made 1940

Boilers made at

-do-

By whom made

-do-

Boiler No. 677

When made 1940

Nominal Horse Power

630

Owners

Ministry of Shipping

Port belonging to

Glasgow

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles, Ltd.

(Letter for Record 6)

Total Heating Surface of Boilers

8344 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

Coal

No. and Description of Boilers

4 Single-ended

Working Pressure 250 lb.

Tested by hydraulic pressure to

425 lb.

Date of test

10-6-40

No. of Certificate

20586

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

52 sq ft

No. and Description of safety valves to each boiler

2" I.H.L. scale

Area of each set of valves per boiler

per Rule 4.920"

as fitted

6.280"

Pressure to which they are adjusted

250 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

18"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

22"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

14'-0"

Length

11'-6"

Shell plates: Material

steel

Tensile strength

29/33 tons

Thickness

1 17/32"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

ditch

long. seams

D.B.S.

T.R.

Diameter of rivet holes in

circ. seams

1 9/16"

Pitch of rivets

4.09"

inter.

10 3/4"

Percentage of strength of circ. end seams

plate 61.7

rivets 48.3

Percentage of strength of circ. intermediate seam

plate

85.4

rivets

86

Percentage of strength of longitudinal joint

plate 85.4

rivets 86

combined 88

Thickness of butt straps

outer 1 3/16"

inner 1 5/16"

No. and Description of Furnaces in each Boiler

3 Deighton

Material

steel

Tensile strength

26/30 tons

Smallest outside diameter

41 1/4"

Length of plain part

top -

bottom -

Thickness of plates

crown 23/32"

bottom 1/32"

Description of longitudinal joint

welded

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

-

End plates in steam space: Material

steel

Tensile strength

26/30 tons

Thickness

1 29/64"

Pitch of stays

18 1/2" x 21"

How are stays secured

D.H.

Tube plates: Material

front steel

back

Tensile strength

26/30 tons

Thickness

1"

31/32"

Mean pitch of stay tubes in nests

9.75"

Pitch across wide water spaces

14"

Girders to combustion chamber tops: Material

steel

Tensile strength

28/32 tons

Depth and thickness of girder

at centre

2 @ 10 3/4" x 7/8"

Length as per Rule

38 29/32"

Distance apart

6 5/8" & 7 3/4"

No. and pitch of stays

in each

3 @ 9 1/2"

Combustion chamber plates: Material

steel

Tensile strength

26/30 tons

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Bottom

7/8"

Pitch of stays to ditto: Sides

8 1/4" x 9 1/2"

Back

8 1/4" x 9 1/2"

Top

9 1/2" x 7 3/4"

Are stays fitted with nuts or riveted over

nuts

Front plate at bottom: Material

steel

Tensile strength

26/30 tons

Thickness

1"

Lower back plate: Material

steel

Tensile strength

26/30 tons

Thickness

29/32"

Pitch of stays at wide water space

14"

Are stays fitted with nuts or riveted over

nuts

Main stays: Material

steel

Tensile strength

28/32 tons

Diameter

At body of stay, or Over threads

3 5/8"

No. of threads per inch

6

Screw stays: Material

steel

Tensile strength

26/30 tons

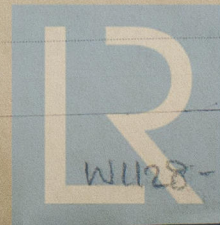
Diameter

At turned off part, or Over threads

1 7/8"

No. of threads per inch

9



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Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, -
or Over threads 2"

No. of threads per inch 9

Tubes: Material steel External diameter { Plain 3"
Stay 3" Thickness { 8 WG
3/8", 7/16", 1/2" No. of threads per inch 9

Pitch of tubes 4 1/8" x 4 1/4" Manhole compensation: Size of opening in
shell plate 21" x 17" Section of compensating ring 13" x 1 7/32" No. of rivets and diameter of rivet holes 40 @ 1 9/16"

Outer row rivet pitch at ends 10 3/4" Depth of flange if manhole flanged 4 3/8" 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 _____ Thickness of crown _____ No. and diameter of
stays _____ Inner radius of crown _____

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 forgings
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 _____

Pressure to which the safety valves are adjusted _____ Hydraulic test pressure: _____
tubes _____ forgings and 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 BARCLAY, CURLE & CO., LTD Manufacturer.
Alexander Macneil

Dates of Survey { During progress of work in shops - - 1940 Feb. 15, Mar. 19, 28, Apr. 12,
while building { 24, 30, May 16, 24, June 3,
board vessel - - 10, 21, Sept. 6, 2,

Are the approved plans of boiler and superheater forwarded herewith 20/9/39
(If not state date of approval.)

Total No. of visits 13

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. "ITRIA" GLS.R.N. 62382

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been
built under special survey in accordance with the Rules and
approved plans, and the materials and workmanship are
good. They have been satisfactorily installed in the vessel, and
the safety valves have been adjusted under steam to the
working pressure.

Feb
9/9/40

Survey Fee £ _____ When applied for, _____ 19
Travelling Expenses (if any) £ 500 : : : When received, _____ 19

A. J. Brown
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 10 SEP 1940 LJM

Assigned SEE ACCOMPANYING MACHINERY REPORT.