

## REPORT ON BOILERS.

No. 68341

Received at London Office

20 APR 1944

24 NOV 1944

Date of writing Report

19

When handed in at Local Office

15.4.1944

Port of

Glasgow

No. in Survey held at

Date, First Survey

24.8.43

Last Survey

14-4-

1944

(Number of Visits)

6

Gross

Tons

Net

Built at

Northwich

By whom built

V. J. Woodward &amp; Sons Ltd

Yard No.

760

When built

1944

Engines made at

do

By whom made

do

Engine No.

215

When made

Boilers made at

Glasgow

By whom made

Alex Anderson &amp; Son Ltd.

Boiler No.

3802

When made

1944

Nominal Horse Power

Owners

Port belonging to

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

Manufacturers of Steel

Coburns Ltd.

(Letter for Record

(5)

Total Heating Surface of Boilers

991 ft<sup>2</sup>

Is forced draught fitted

No

Coal or Oil fired

Coal

No. and Description of Boilers

1 Marine Return-tube

18B

Working Pressure

140

Tested by hydraulic pressure to

260

Date of test

14-4-44

No. of Certificate

21710

Can each boiler be worked separately

Area of Firegrate in each Boiler

31.75 ft<sup>2</sup>

No. and Description of safety valves to each boiler

1-2 1/2" Lobe Spring

Area of each set of valves per boiler

per Rule

7.98

as fitted

9.8

Pressure to which they are adjusted

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

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

9' 10 3/8"

Length

10' 6"

Shell plates: Material

Steel

Tensile strength

28-32

Thickness

1/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

DR lap

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

13/16"

long. seams

13/16"

Pitch of rivets

2 3/4"

5-46"

Percentage of strength of circ. end seams

plate

70.5

rivets

45.0

Percentage of strength of circ. intermediate seam

plate

84.75

rivets

106.2

Percentage of strength of longitudinal joint

plate

84.75

rivets

106.2

combined

91.35

Thickness of butt straps

outer

9/16"

inner

1/16"

No. and Description of Furnaces in each Boiler

2 Leighton

Material

Steel

Tensile strength

26-30

Smallest outside diameter

2' 11 1/4"

Length of plain part

top

7/16"

bottom

Thickness of plates

crown

7/16"

bottom

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

Thickness

7/8"

Pitch of stays

18 1/2 x 13

How are stays secured

Double nut &amp; cone washer

Tube plates: Material

front

steel

back

Tensile strength

26-30

Thickness

7/8"

25/32"

Mean pitch of stay tubes in nests

12"

Pitch across wide water spaces

14"

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32

Depth and thickness of girder

at centre

2 @ 7' x 5/8"

Length as per Rule

2' 1 3/32"

Distance apart

10 1/4"

No. and pitch of stays

in each

2 - 8"

Combustion chamber plates: Material

Steel

Tensile strength

26-30

Thickness: Sides

5/8"

Back

9/16"

Top

5/8"

Bottom

3/4"

Pitch of stays to ditto: Sides

8 x 9 7/8"

Back

8 1/2 x 8 3/4"

Top

8 x 10 1/4"

Are stays fitted with nuts or riveted over

Yes

Front plate at bottom: Material

Steel

Tensile strength

26-30

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26-30

Thickness

7/8"

Pitch of stays at wide water space

14"

Are stays fitted with nuts or riveted over

Yes

Main stays: Material

Steel

Tensile strength

28-32

Diameter

At body of stay

2 1/2"

or

2 1/2"

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

26-30

Diameter

At turned off part

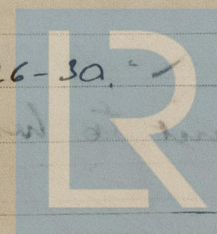
1 1/2"

or

1 1/2"

No. of threads per inch

9



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Are the stays drilled at the outer ends No. ✓  
No. of threads per inch 9 ✓  
Tubes: Material Iron lapwelded External diameter { Plain 3"  
Stay 3" Thickness { 10 lb. No. of threads per inch 9  
Pitch of tubes 4 x 4 ✓ Manhole compensation: Size of opening in  
shell plate 19 1/2" x 15 1/2" ✓ Section of compensating ring 2 (7 x 3/4)" ✓ No. of rivets and diameter of rivet holes 44 - 13/16" ✓  
Outer row rivet pitch at ends 5 1/2" ✓ 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 \_\_\_\_\_ 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 \_\_\_\_\_

ALEX. ANDERSON & SONS LTD.  
The foregoing is a correct description,  
Perth & W.B. Fleming Manufacturer.

Dates of Survey { During progress of 1943 Aug 22, Nov 4, Dec 22, 1944 Jan 19 Are the approved plans of boiler and superheater forwarded herewith Yes (two)  
work in shops - - - Mar 30 Apr 14 (If not state date of approval.)  
while building { During erection on board vessel - - -  
Total No. of visits 6

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. Glb Report N° 67832

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been constructed under Special Survey in accordance with the Society's Rules, the approved plans and the Specification.

The materials and workmanship are good.

The boiler is intended for Messrs W J Yarwood & Son Ltd, Norwich, for installation in their N° 759.

Survey Fee ... £ 6 : 12 :  
Spec<sup>n</sup> £ 1 : 13 :  
Travelling Expenses (if any) £ : :  
When applied for, 18 APR 1944  
When received, 19

M. Dale  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 18 APR 1944

Assigned

Transmit to Wokingham

LIVERPOOL 21 NOV 1944

See attached Machinery Report.

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