

# REPORT ON BOILERS.

No. 78591

Received at London Office

of writing Report

192

When handed in at Local Office

1/12/1924

1924

Port of

NEWCASTLE-ON-TYNE

in Survey held at

Newcastle

Date, First Survey

21<sup>st</sup> July 1924

Last Survey

1<sup>st</sup> Dec 1924

1924

on the

Steel Ss.

"TACITO"

(Number of Visits)

Gross

6900

Net

4100

ter

Built at Newcastle

By whom built

Northumberland S.B. & G. Yard No. 264

When built

1924

ines made at

Newcastle

By whom made

Wallsend Slipway & Eng. Co. Ltd.

Engine No.

841

When made

1924

ers made at

Newcastle

By whom made

Wallsend Slipway & Eng. Co. Ltd.

Boiler No.

841

When made

1924

inal Horse Power

626

Owners

Cia. Gen. de Combustibles

Port belonging to

Buenos Ayres

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

Manufacturers of Steel

D. Colville & Sons Ltd.

(Letter for Record S.)

al Heating Surface of Boilers

9672 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

Oil

and Description of Boilers

Three single ended cylindrical

Working Pressure

180 lbs

tested by hydraulic pressure to

320 lbs

Date of test

14-10-24

No. of Certificate

2-9868

Can each boiler be worked separately

Yes

ea of Firegrate in each Boiler

No. and Description of safety valves to each boiler

Three Spring-loaded

ea of each set of valves per boiler

per Rule 24.8 sq"

as fitted 26.83 sq"

Pressure to which they are adjusted

180 lbs

Are they fitted with easing gear

Yes

case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

No Donkey Boilers

allest distance between boilers or uptakes and bunkers or woodwork

30 3/4"

Is oil fuel carried in the double bottom under boilers

Yes

allest distance between shell of boiler and tank top plating

29 1/4"

Is the bottom of the boiler insulated

No

argest internal dia. of boilers

199 15/16"

Length mean

11-10"

Shell plates: Material

Steel

Tensile strength

30-34 Tons

ickness

1 3/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end Double

ng. seams

Treble

S.B.S.

Diameter of rivet holes in

circ. seams 1 15/32"

long. seams 1 1/32"

Pitch of rivets

4.65"

Percentage of strength of circ. end seams

plate 57.6

rivets 43.6

Percentage of strength of circ. intermediate seam

Percentage of strength of longitudinal joint

plate 85.7

rivets 85.4

combined 89.8

Working pressure of shell by Rules

181 lbs

Thickness of butt straps

outer 1 3/32"

inner 1 1/32"

No. and Description of Furnaces in each Boiler

Four main

Material

Steel

Tensile strength

26-30 Tons

Smallest outside diameter

43"

Length of plain part

top

bottom

Thickness of plates

crown 3/8"

bottom 5/16"

Description of longitudinal joint

weld

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

Working pressure of furnace by Rules

184 lbs

End plates in steam space: Material

Steel

Tensile strength

26-30 Tons

Thickness

1 3/16"

Pitch of stays

21 x 16"

How are stays secured

Double-nuts

Working pressure by Rules

189 lbs

Tube plates: Material

front Steel

back Steel

Tensile strength

26-30 Tons

Thickness

1 3/16" - 1"

Mean pitch of stay tubes in nests

9 3/16"

Pitch across wide water spaces

13 1/4"

Working pressure

front 228 lbs

back 284 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 Tons

Depth and thickness of girder

at centre

9" x 1 1/2"

Length as per Rule

33 15/32"

Distance apart

9"

No. and pitch of stays

in each

Three - 7 3/8"

Working pressure by Rules

186 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26-30 Tons

Thickness: Sides

7/8"

Back

3/32"

Top

5/8"

Bottom

7/8"

Pitch of stays to ditto: Sides

7 7/8" x 9 1/4"

Back

8 1/2" x 9"

Top

7 7/8" x 9"

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

182 lbs

Front plate at bottom: Material

Steel

Tensile strength

26-30 Tons

Thickness

1"

Lower back plate: Material

Steel

Tensile strength

26-30 Tons

Thickness

3/8"

Pitch of stays at wide water space

13 1/4"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

252 lbs

Main stays: Material

Steel

Tensile strength

28-32 Tons

Diameter

At body of stay,

or Over threads

3"

No. of threads per inch

Six

Area supported by each stay

336 sq"

Working pressure by Rules

227 lbs

Screw stays: Material

Steel

Tensile strength

26-30 Tons

Diameter

At turned off part,

or Over threads

1 5/8"

No. of threads per inch

Nine

Area supported by each stay

76.5 sq"

# REPORT ON BOILERS

Working pressure by Rules 198 lbs Are the stays drilled at the outer ends No. Margin stays: Diameter  $\left\{ \begin{array}{l} \text{At turned off part} \\ \text{or} \\ \text{Over threads} \end{array} \right. \frac{1}{4}''$

No. of threads per inch nine Area supported by each stay 94.56 sq" Working pressure by Rules 192 lbs

Tubes: Material Iron External diameter  $\left\{ \begin{array}{l} \text{Plain } 2\frac{1}{2}'' \\ \text{Stay } 2\frac{3}{4}'' \end{array} \right.$  Thickness  $\left\{ \begin{array}{l} \text{No. 8. N.G.} \\ \frac{5}{16}'' \end{array} \right.$  No. of threads per inch nine

Pitch of tubes  $3\frac{5}{8}'' \times 3\frac{3}{4}''$  Working pressure by Rules Plain 200 lbs stay 240 lbs Manhole compensation: Size of opening in shell plate 19" x 15" Section of compensating ring  $33'' \times 35\frac{1}{8}'' \times 1\frac{3}{32}''$  No. of rivets and diameter of rivet holes 36 -  $1\frac{1}{2}''$

Outer row rivet pitch at ends  $9\frac{1}{4}''$  Depth of flange if compensating ring mandrilled flanged  $3\frac{7}{16}''$  Steam Dome: Material Iron

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 23 inclusive for boilers been complied with \_\_\_\_\_

FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED.

The foregoing is a correct description,

Adair Manufacturer

Dates of Survey  $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - - -} \end{array} \right. \end{array} \right.$  See Study Report

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

Total No. of visits \_\_\_\_\_

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) These Boilers have been constructed under special survey and to the approved plan. The workmanship and materials are sound and good. They have been submitted to hydraulic pressure test with satisfactory results, have been efficiently installed and fastened on the steamer "TACITO". The safety valves were adjusted under steam. In my opinion the vessel is now eligible for classification in the Society's Register Book with notation \*L.M.C. 12.24

Survey Fee ... .. £ : | When applied for, 192

Travelling Expenses (if any) £ : | When received, 192

See Study Report

R. Lee Amess  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI, 5 DEC 1924

Assigned See other rpt same number



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