

## REPORT ON BOILERS.

No. 95173

Received at London Office

JUN 25 1937

Date of writing Report

19

When handed in at Local Office

24/6/37

Port of

NEWCASTLE-ON-TYNE

No. in Reg. Book.

Survey held at

Walcend

Date, First Survey

3<sup>rd</sup> Nov 1936

Last Survey

17 June

1937

on the

Twin Screw Steamer "BACHAQUERO"

(Number of Visits)

Gross

Tons

Net

Master

Built at

By whom built

Furness S. B. Co.

Yard No.

266

When built

1937

Engines made at

Walcend

By whom made

North Eastern Marine Engineering Co. Ltd.

Engine No.

2870

When made

1937

Boilers made at

Walcend

By whom made

North Eastern Marine Engineering Co. Ltd.

Boiler No.

2870

When made

1937

Nominal Horse Power

551

Owners

Lago Shipping Co.

Port belonging to

London

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

Manufacturers of Steel

Steel Company of Scotland - Colvilles Ltd.

(Letter for Record

S

Total Heating Surface of Boilers

8870 sq. ft.

Is forced draught fitted

Yes

Coal or Oil fired

Oil

No. and Description of Boilers

Two single ended multitubular

Working Pressure

225 lbs

Tested by hydraulic pressure to

388 lbs

Date of test

4-3-1937

No. of Certificate

708

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

Two spring loaded

Area of each set of valves per boiler

per Rule 23.9 sq. ft.

Pressure to which they are adjusted

230 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

9'-6"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

3'-0"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

17'-5 5/8"

Length

11'-9"

Shell plates: Material

Steel

Tensile strength

29 1/2 - 33 1/2 tons

Thickness

1 1/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end Lap double Riv

long. seams

Trieb Riv double straps

Diameter of rivet holes in

circ. seams 1 1/16"

long. seams 1 1/16"

Pitch of rivets

11 3/8"

Percentage of strength of circ. end seams

plate 61.0

rivets 47.2

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.1

rivets 85.2

combined 87.2

Working pressure of shell by Rules

226 lbs

Thickness of butt straps

outer 1 5/16"

inner 1 7/16"

No. and Description of Furnaces in each Boiler

Four - Morrison Type

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

41 9/16"

Length of plain part

top 1 5/16"

bottom 1 7/16"

Thickness of plates

crown 2 1/32"

bottom 2 1/32"

Description of longitudinal joint

Weld

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

None

Working pressure of furnace by Rules

230 lbs

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1 5/16"

Pitch of stays

20" x 17 1/4"

How are stays secured

Double nuts

Working pressure by Rules

231 lbs

Tube plates: Material

front Steel

back Steel

Tensile strength

26-30 tons

Thickness

13/16"

Mean pitch of stay tubes in nests

8 1/16"

Pitch across wide water spaces

14"

Working pressure

front 239 lbs

back 258 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

29-33 tons

Depth and thickness of girder

at centre

10 1/4" x 2 @ 1"

Length as per Rule

39"

Distance apart

9 1/2"

No. and pitch of stays

in each

3 @ 8 3/8"

Working pressure by Rules

230 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

13/16"

Back

13/16"

Top

13/16"

Bottom

1"

Pitch of stays to ditto: Sides

8 3/8" x 7 1/2"

Back

8 3/8" x 7 1/2"

Top

8 3/8" x 9 1/2"

Are stays fitted with nuts or riveted over

nuts &amp; rivets

Working pressure by Rules

277 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

7/8"

Pitch of stays at wide water space

14 1/2" x 7 1/2"

Are stays fitted with nuts or riveted over

nuts outside - riveted over inside

Working Pressure

235 lbs

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

At body of stay, or over threads

3"

No. of threads per inch

6

Area supported by each stay

345 sq. in.

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" &amp; 1 7/8"

No. of threads per inch

9

Area supported by each stay

84.3 sq. in.



Working pressure by Rules *250 lbs* Are the stays drilled at the outer ends *Yes* Margin stays: Diameter { At turned off part, *1 7/8"* or Over threads *1 7/8"* }  
No. of threads per inch *9* Area supported by each stay *87.6 sq"* Working pressure by Rules *243 lbs*  
Tubes: Material *Seamless Steel* External diameter { Plain *2 1/4"* Stay *2 1/4"* } Thickness { *99* *5/16"* } No. of threads per inch *9*  
Pitch of tubes *3 1/2" x 3 1/2"* Working pressure by Rules *350 lbs* Manhole compensation: Size of opening in  
END *16" x 12"* plate Section of compensating ring No. of rivets and diameter of rivet holes  
Outer row rivet pitch at ends Depth of flange if manhole flanged *4 1/8"* Steam Dome: Material  
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 *Not fitted* 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 Working pressure as per  
Rules 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 THE NORTH EASTERN MACHINE ENGINEERING CO LTD Manufacturer.  
*John Neill*

Dates of Survey { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith *Yes*  
while building { During erection on board vessel - - } (If not state date of approval.)  
Total No. of visits

Is this Boiler a duplicate of a previous case *no* If so, state Vessel's name and Report No.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *These boilers have been built under Special Survey, in accordance with the approved plan and the Rules: the workmanship and materials are sound and good: on completion they were tested by water pressure to 388 lbs per square inch and found tight and satisfactory. The boilers have been fitted in the ship in an efficient manner, tried under steam and found satisfactory.*

Survey Fee ... £ *Charged on* When applied for, *10*  
Travelling Expenses (if any) £ *Machy Rpt* When received, *10*  
*J. S. Lister*  
Engineer Surveyor to Lloyd's Register of Shipping.