

## REPORT ON BOILERS.

No. 80550

Date of writing Report

192

When handed in at Local Office

30/7/1926

Port of

Received at London Office 3 AUG 1926  
NEWCASTLE-ON-TYNE

No. in Survey held at

Newcastle-on-Tyne

Date, First Survey

9 March

Last Survey

23 July 1926

87910

38028

on the

Steel Sc.

ANGLO-PERUVIAN

(Number of Visits)

Gross 5530

Tons Net 3363

Master

Built at Sunderland

By whom built

Shaw Bros. Ltd.

Yard No. 423

When built 1926

Engines made at

Newcastle

By whom made

North Eastern Marine Eng. Co. Ltd.

Engine No. 2626

When made 1926

Boilers made at

Newcastle

By whom made

North Eastern Marine Eng. Co. Ltd.

Boiler No. 2626

When made 1926

Nominal Horse Power

453

Owners

Titrato Producers S.S. Co. Ltd.

Port belonging to

(Lawther &amp; Co. Ltd. Mgrs.)

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

Manufacturers of Steel

David Colville &amp; Sons Ltd.

(Letter for Record

S

Total Heating Surface of Boilers

6216 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

Coal

No. and Description of Boilers

Three single-ended cylindrical

Working Pressure

220 lbs

Tested by hydraulic pressure to

380 lbs

Date of test

3.6.26

No. of Certificate

105

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

46.9 sq ft

No. and Description of safety valves to each boiler

Two Spring-loaded

Area of each set of valves per boiler

per Rule

11.02 sq ft

Pressure to which they are adjusted

220 lbs

Are they fitted with easing gear

Yes

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

N.R. Valve on Donkey Boiler

Smallest distance between boilers or uptakes and bunkers or woodwork

16 1/2"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

12"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

13-9 1/4"

Length

12'-0"

Shell plates: Material

Steel

Tensile strength

28-32 tons

Thickness

1 3/8"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end Double

long. seams

Double S.S.

Diameter of rivet holes in

circ. seams

1 3/8"

Pitch of rivets

4"

Percentage of strength of circ. end seams

plate 64

rivets

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.4

rivets

Working pressure of shell by Rules

221 lbs

Thickness of butt straps

outer

1 1/8"

inner

1 3/8"

No. and Description of Furnaces in each Boiler

Three Deighton

J.C.F.

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

38 9/16"

Length of plain part

top

bottom

Thickness of plates

crown

2 1/2"

bottom

Description of longitudinal joint

weld

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

Working pressure of furnace by Rules

249 lbs

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1 1/2"

Pitch of stays

25" x 19 1/2"

How are stays secured

Double nuts

Working pressure by Rules

220 lbs

Tube plates: Material

front

Steel

back

Steel

Tensile strength

26-30 tons

Thickness

1"

Mean pitch of stay tubes in nests

8 1/2"

Pitch across wide water spaces

14 1/4"

Working pressure

front 220 lbs

back 278 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

9 1/4" - 1 1/2"

Length as per Rule

33"

Distance apart

9"

No. and pitch of stays

in each

Two

9 3/8"

Working pressure by Rules

222 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Bottom

1"

Pitch of stays to ditto: Sides

9" x 9 3/8"

Back

10" x 8 3/8"

Top

9" x 9 3/8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

221 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

1 5/16"

Pitch of stays at wide water space

14 1/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

232 lbs

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

At body of stay,

or

Over threads

3 1/2"

No. of threads per inch

Six

Area supported by each stay

487.5 sq ft

Working pressure by Rules

221 lbs

Screw stays: Material

Steel

Tensile strength

26-30 tons

Diameter

At turned off part,

or

Over threads

2"

No. of threads per inch

Nine

Area supported by each stay

88.875 sq ft

Working pressure by Rules 275 lb. Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, or Over threads 2 1/4" ✓  
No. of threads per inch nine ✓ Area supported by each stay 115.625 sq. in. Working pressure by Rules 280 lb. ✓  
Tubes: Material Iron External diameter { Plain 3" ✓ Stay 3" ✓ Thickness { No. 7 1/4" ✓ No. 8 3/8" ✓ No. 9 7/8" ✓ No. of threads per inch nine ✓  
Pitch of tubes 4 1/4" Working pressure by Rules plain 200 lb. Stay 240 lb. ✓ Manhole compensation: Size of opening in  
End plate 16" x 12" ✓ Section of compensating ring none No. of rivets and diameter of rivet holes ✓  
Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 4 1/2" ✓ 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 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 North Eastern Manufacturers of Tubes The Weldless Steel Tube Co. Ltd. ✓  
Number of elements 141 Material of tubes Solid Drawn Steel ✓ Steel castings none ✓  
Material of headers S.M. Ingot Steel Tensile strength 26-30 Tons Thickness 1 1/8" ✓ Internal diameter and thickness of tubes 17 mm. 2.5 mm.  
the boiler be worked separately Yes ✓ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes ✓  
Area of each safety valve 3.14 sq. ft. ✓ Are the safety valves fitted with easing gear Yes ✓ Working pressure as per  
Rules 220 lb. ✓ Pressure to which the safety valves are adjusted 225 lb. ✓ Hydraulic test pressure:  
tubes 150 lb. ✓ Headers 660 lb. ✓ and after assembly in place 550 lb. ✓ Are drain cocks or valves fitted  
to free the superheater from water where necessary Yes ✓  
Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes ✓

The foregoing is a correct description,  
THE NORTH EASTERN MARINE ENGINEERING CO., LTD. Manufacturer.  
Signature

Dates of Survey { During progress of work in shops - - -  
while building { During erection on board vessel - - -  
See Machinery 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. The workmanship & materials are good. They have been built in accordance  
with the rules & approved plans, have been submitted to the hydraulic pressure test and  
efficiently installed and fastened on board the vessel.

Survey Fee ... £ See Machinery Report  
Travelling Expenses (if any) £  
When applied for, 192  
When received, 192  
Signature  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
Assigned See Mr. F. E. yph. No. 29300