

Received at London Office

20 DEC 1929

Date of writing Report

192

When handed in at Local Office

19/12/1929

Port of

NEWCASTLE-ON-TYNE

No. in Survey held at
Reg. Book.

Wallsend-on-Tyne

Date, First Survey

1st March

Last Survey

18th Dec

1929

on the

New Steel S.S. "Anglo-African"

(Number of Visits)

Tons }
Gross
Net

Master

Built at

Sunderland

By whom built

Short Bros Ltd.

Yard No.

439

When built

1929

Engines made at

Wallsend-on-Tyne

By whom made

North Eastern Mar & Eng Ltd.

Engine No.

2706

When made

1929

Boilers made at

Wallsend-on-Tyne

By whom made

North Eastern Mar & Eng Ltd.

Boiler No.

2706

When made

1929

Nominal Horse Power

453

Owners

Nitrate Producers & Coy Ltd

Port belonging to

London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Appleby Iron Coy Ltd & Widdingham Iron Steel Works

(Letter for Record)

3

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.

Working Pressure

220 lbs.

Tested by hydraulic pressure to

380

Date of test

14-9-29

No. of Certificate

388

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

45.0 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.

as fitted

6.28 sq ft

Pressure to which they are adjusted

225 lbs

Are they fitted with easing gear

yes

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

no

Smallest distance between boilers or uptakes and bunkers or woodwork

20"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

20"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

13'-9 5/16"

Length

12'-0"

Shell plates: Material

Steel

Tensile strength

29-33 tons

Thickness

1 3/8"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end D.R.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams 1 1/16"

long. seams 1 3/8"

Pitch of rivets

4" 9 1/16"

Percentage of strength of circ. end seams

plate 64.1

rivets 48

Percentage of strength of circ. intermediate seam

plate 85.43

rivets 84.1

Percentage of strength of longitudinal joint

plate 88.25

rivets 84.1

Working pressure of shell by Rules

223.5 lbs.

Thickness of butt straps

outer 1 1/16"

inner 1 3/16"

No. and Description of Furnaces in each Boiler

Three corrugated (Dighton).

Material

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

3'-2 1/4"

Length of plain part

top 19 3/8"

bottom 30"

Thickness of plates

crown 19 3/8"

bottom 30"

Description of longitudinal joint

weld

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

none

Working pressure of furnace by Rules

226 lbs.

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 1/2"

Pitch of stays

1 1/2 x 20 1/2

How are stays secured

Double nuts

Working pressure by Rules

220.6 lbs.

Tube plates: Material

front Steel

back Steel

Tensile strength

26 to 30 tons

Thickness

3/4"

Mean pitch of stay tubes in nests

8 1/2"

Pitch across wide water spaces

14 1/4 x 8 1/2"

Working pressure

front 220 lbs

back 218 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

29 to 33 tons

Depth and thickness of girder

at centre

2 @ 9 1/4 x 3 1/4"

Length as per Rule

2'-9"

Distance apart

9"

No. and pitch of stays

in each

2 @ 9 1/8"

Working pressure by Rules

230 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

3 1/4"

Back

3 1/4"

Top

3 1/4"

Bottom

1"

Pitch of stays to ditto: Sides

9 1/8 x 9"

Back

10 x 8 1/8"

Top

9 1/8 x 9"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

222 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 5/16"

Pitch of stays at wide water space

14 1/4 x 10"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

234 lbs.

Main stays: Material

Steel

Tensile strength

28 to 32 tons

Diameter

At body of stay, 3 1/2"

Over threads, 3 3/4"

No. of threads per inch

6

Area supported by each stay

465.5 sq ft

Working pressure by Rules

232 lbs

Screw stays: Material

Steel

Tensile strength

26 to 30 tons

Diameter

At turned off part, 2"

Over threads, 2"

No. of threads per inch

9

Area supported by each stay

88.4/5 sq ft

Working pressure by Rules 240 lbs Are the stays drilled at the outer ends no Margin stays: Diameter 2 1/8" ^{At turned off part,}
 No. of threads per inch 9 Area supported by each stay 115.4 sq" Working pressure by Rules 246 lbs
 Tubes: Material S.D. Steel External diameter 3" Thickness 1/4" No. of threads per inch 9
 Pitch of tubes 4 1/4" x 4 1/4" Working pressure by Rules W.W.S. 243 lbs Manhole compensation: Size of opening in
 shell plate 16" x 12" Section of compensating ring flanged No. of rivets and diameter of rivet holes none
 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}
 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 K.E.M. Schmit Type Manufacturers of Tubes Yulex Ltd
 Number of elements 141 Material of tubes S.D. Steel Internal diameter and thickness of tubes 1 1/4" x 2.5 mm
 Material of headers Wrought steel Tensile strength 26 to 30 tons Thickness 1 1/8" Can the superheater be shut off and
 the boiler be worked separately no 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 3.1416 sq" Are the safety valves fitted with easing gear yes Working pressure as per
 Rules 220 lbs Pressure to which the safety valves are adjusted 225 lbs Hydraulic test pressure:
 tubes 1500 lbs sq" castings & forgings 660 lbs and after assembly in place 550 lbs Are drain cocks or valves fitted
 to free the superheater from water where necessary yes

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes

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

J. Pindale (Chief Draftsman) Manufacturer.

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 Yes
 (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 built under Special Survey. Materials & Workmanship good. Hydraulic tests satisfactory. They are efficiently installed & fixed in the vessel, have been examined under steam & Safety valves adjusted.

Survey Fee ... £ : : When applied for, 192
 Travelling Expenses (if any) £ : : When received, 192

William Butler
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 24 DEC 1929

Assigned

See Report attached



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 Foundation