

REPORT ON BOILERS.

No. 80753

Received at London Office

7 DEC 1926

NEWCASTLE-ON-TYNE.

1 - 12 - 1926 When handed in at Local Office 6 - 12 - 1926 Port of

No. in Survey held at

Jarrow

Date, First Survey 18th Sept 1925

Last Survey 26th Nov

1926

87909 on the

S.S. "AFRICSTAR"

(Number of Visits —) Gross 10645 Tons Net 6542

on oil burner

Built at Hebburn

By whom built Palmers S. & J. Co. Ltd.

Yard No. 958

When built 1926

engines made at

Jarrow

By whom made Palmers S. & J. Co. Ltd.

Engine No. 958

When made 1926

boilers made at

"

By whom made

"

"

Boiler No. 958

When made 1926

nominal Horse Power

Owners Blue Star Line (1920) Ltd.

Port belonging to London

Double Ended

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Messrs. Fried Krupp A.G. Essen.

(Letter for Record

Y

Total Heating Surface of Boilers

15016

Is forced draught fitted

YES

Coal or Oil fired

BOTH

No. and Description of Boilers

2 DB

Working Pressure

200 LBS.

Tested by hydraulic pressure to

350 LBS.

Date of test 31/3/26, 14/5/26

No. of Certificate 9986, 101

Can each boiler be worked separately

YES

Area of Firegrate in each Boiler

140

No. and Description of safety valves to each boiler TWO SPRING LOADED (COCKBURN HIGH LIFT)

Area of each set of valves per boiler

per Rule 25.13

Pressure to which they are adjusted

200 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

1' 6"

Is oil fuel carried in the double bottom under boilers

YES

Smallest distance between shell of boiler and tank top plating

2' 6"

Is the bottom of the boiler insulated

YES

Largest internal dia. of boilers

17' 6"

Length

21' 6"

Shell plates: Material

STEEL

Tensile strength

29-33 TONS

Thickness

1 1/2"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

D.R.

inter. T.R.

Long. seams

T.R. D.B.S.

Diameter of rivet holes in

circ. seams 1 5/8"

long. seams 1 9/16"

Pitch of rivets

4 1/2"

10 5/8"

Percentage of strength of circ. end seams

plate 64.7%

rivets 46.5%

Percentage of strength of circ. intermediate seam

plate 66.27%

rivets 66.9%

Percentage of strength of longitudinal joint

plate 85.29%

rivets 87.64%

combined 81%

Working pressure of shell by Rules

201 LBS.

Thickness of butt straps

outer 1 5/8"

inner 1 3/8"

No. and Description of Furnaces in each Boiler

8 Cf

Material

STEEL

Tensile strength

26-30 TONS

Smallest outside diameter

3' 7 1/4"

Length of plain part

top 10 1/2"

bottom 10 1/2"

Thickness of plates

crown 5/8"

bottom 5/8"

Description of longitudinal joint

WELD

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

Working pressure of furnace by Rules

210.9 LBS.

End plates in steam space: Material

STEEL

Tensile strength

26-30 TONS

Thickness

1 1/2"

Pitch of stays

22 1/2" x 17 1/2"

How are stays secured

DOUBLE NUTS & WASHERS

Working pressure by Rules

208 LBS.

Tube plates: Material

front STEEL

back STEEL

Tensile strength

26-30 TONS

26-30 TONS

Thickness

1"

23/32"

Mean pitch of stay tubes in nests

9 3/4"

Pitch across wide water spaces

13 1/2"

Working pressure

front 203 LBS.

back 209 LBS.

Girders to combustion chamber tops: Material

STEEL

Tensile strength

28-32 TONS

Depth and thickness of girder

at centre

11' x 1 1/2"

Length as per Rule

36.78"

Distance apart

8 3/4"

No. and pitch of stays

in each

6 @ 9"

Working pressure by Rules

241 LBS.

Combustion chamber plates: Material

STEEL

Tensile strength

26-30 TONS

Thickness: Sides

3/4"

Back

Top

3/4"

Bottom

3/4"

Pitch of stays to ditto: Sides

10' x 7 3/8"

Back

Top

9' x 8 3/4"

Are stays fitted with nuts or riveted over

NUTS

Working pressure by Rules

245 LBS.

Front plate at bottom: Material

STEEL

Tensile strength

26-30 TONS

Thickness

1"

Lower back plate: Material

-

Tensile strength

-

Thickness

-

Pitch of stays at wide water space

Are stays fitted with nuts or riveted over

-

Working Pressure

Main stays: Material

STEEL

Tensile strength

28-32 TONS

Diameter

At body of stay, or Over threads

3 3/8"

No. of threads per inch

6

Area supported by each stay

393.76"

Working pressure by Rules

222 LBS.

Screw stays: Material

IRON

Tensile strength

21 1/2 TONS

Diameter

At turned off part, or Over threads

1 3/4"

No. of threads per inch

9

Area supported by each stay

78.75"

W325-0100

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Working pressure by Rules **230 LBS** Are the stays drilled at the outer ends **No** ✓ Margin stays: Diameter { At turned off part, -
or
Over threads. -
No. of threads per inch - Area supported by each stay - Working pressure by Rules -
Tubes: Material **IRON** ✓ External diameter { Plain **2 1/2"** ✓ Thickness { **No. 9, LSC** ✓
Stay **2 1/2"** ✓ **2/8", 7/16", 5/16"** ✓ No. of threads per inch **9** ✓
Pitch of tubes **3 1/2" x 3 1/2"** ✓ Working pressure by Rules **300 LBS.** Manhole compensation: Size of opening in
shell plate **20" x 16"** ✓ Section of compensating ring **3' 3" x 3' 2" x 1 1/2"** ✓ No. of rivets and diameter of rivet holes **36 @ 1 1/2"** ✓
Outer row rivet pitch at ends **11"** ✓ Depth of flange if manhole flanged **4 3/8"** ✓ 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 - Manufacturers of { Tubes -
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 - 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 **YES** ✓

Thomas Napier & Co., Ltd.
The foregoing is a correct description.
Thomas Napier Manufacturer.
Manager, Engine Ward

Dates { During progress of
of Survey { work in shops - -
while { During erection on
building { board vessel - - -
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 built under
Special Survey, the materials and workmanship are good.*

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

Thomas Napier
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 10 DEC 1926**

Assigned *See P.B. rpt attached*



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