

Rpt. 5a.

## REPORT ON BOILERS.

No. 83900

11 MAR 1929

Received at London Office

NEWCASTLE-ON-TYNE

Date of writing Report 5-3-1929 When handed in at Local Office 9-3-1929 Port of

No. in Survey held at

Reg. Book.

Date, First Survey

15 June 1927

Last Survey

25 Feb

1929

(Number of Visits)

Gross 720 7118

Tons

Net 4288

Master

Built at

Jarrow

By whom built

Palmers &amp; Co. Ltd.

Yard No.

979

When built

1929

Engines made at

Jarrow

By whom made

Palmers &amp; Co. Ltd.

Engine No.

979

When made

1929

Boilers made at

By whom made

Boiler No.

979

When made

1929

Nominal Horse Power

553

Owners

British Tanker Co. Ltd.

Port belonging to

London

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The Steel Company of Scotland Ltd

(Letter for Record)

Total Heating Surface of Boilers

1093

Is forced draught fitted

No

Coal or Oil fired

Oil

No. and Description of Boilers

1 S.E. CYL. MULTITUBULAR

Working Pressure 120 LBS

Tested by hydraulic pressure to

230 LBS

Date of test

8.11.28

No. of Certificate

336

Can each boiler be worked separately

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 12.14

Pressure to which they are adjusted

120 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

Fitted Upper Deck

Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

YES

Largest internal dia. of boilers

10' 6"

Length

10' 6"

Shell plates: Material

STEEL

Tensile strength

28-32 TONS

Thickness

21/32

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D-RL

long. seams

TRDBS

Diameter of rivet holes in

circ. seams 1"

long. seams 7/8"

Pitch of rivets

3 3/4"

Percentage of strength of circ. end seams

plate 69.0%

rivets 60.5%

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 81.0%

rivets 91.6%

Working pressure of shell by Rules

124 LBS

Thickness of butt straps

outer 7/16"

inner 9/16"

No. and Description of Furnaces in each Boiler

Two DEIGHTON SECTION

Material

STEEL

Tensile strength

26-30 TONS

Smallest outside diameter

2' 10"

Length of plain part

top 10 1/2"

bottom 10 1/2"

Thickness of plates

crown 3/8"

bottom 3/8"

Description of longitudinal joint

WELD

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

Working pressure of furnace by Rules

155 LBS

End plates in steam space: Material

STEEL

Tensile strength

26-30 TONS

Thickness

1 1/2"

Pitch of stays

23 1/2" x 19"

How are stays secured

DOUBLE NUTS &amp; WASHERS

Working pressure by Rules

120 LBS

Tube plates: Material

front STEEL

Tensile strength

26-30 TONS

Thickness

25/32"

23/32"

Mean pitch of stay tubes in nests

10 5/8"

Pitch across wide water spaces

1' 2 1/4"

Working pressure

front 130 LBS

back 121 "

Girders to combustion chamber tops: Material

STEEL

Tensile strength

28-32 TONS

Depth and thickness of girder

at centre

6" x 1' ✓

Length as per Rule

2' 1 25/32"

Distance apart

8 1/2" ✓

No. and pitch of stays

in each

2 @ 10" ✓

Working pressure by Rules

124 LBS

Combustion chamber plates: Material

STEEL

Tensile strength

26-30 TONS

Thickness: Sides

19/32"

Back

3/4"

Top

19/32"

Bottom

19/32"

Pitch of stays to ditto: Sides

10" x 10" ✓

Back

9 1/2" x 11" ✓

Top

10" x 8 1/2" ✓

Are stays fitted with nuts or riveted over

BOTH ✓

Working pressure by Rules

121 LBS ✓

Front plate at bottom: Material

STEEL

Tensile strength

26-30 TONS

Thickness

25/32"

Lower back plate: Material

STEEL

Tensile strength

26-30 TONS

Thickness

3/4"

Pitch of stays at wide water space

d = 19"

Are stays fitted with nuts or riveted over

NUTS

Working Pressure

130 LBS ✓

Main stays: Material

STEEL

Tensile strength

28-32 TONS

Diameter

At body of stay,

or

Over threads

No. of threads per inch

6 ✓

Area supported by each stay

446.5"

Working pressure by Rules

123 LBS

Screw stays: Material

IRON ✓

Tensile strength

21 1/2 TONS MIN. ✓

Diameter

At turned off part,

or

Over threads

No. of threads per inch

9 ✓

Area supported by each stay

104.5"

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WHA-0007



Working pressure by Rules 120 LBS. Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, Over threads 1 7/8", 1 3/4", 1 5/8" ✓  
No. of threads per inch 9 Area supported by each stay 157.34, 130, 125.87 Working pressure by Rules 120 LBS.  
Tubes: Material W IRON External diameter { Plain 3" Thickness { 10 LBS 5/16", 3/8" No. of threads per inch  
Pitch of tubes 4 1/4" x 4 1/4" Working pressure by Rules 140 LBS. Manhole compensation: Size of opening in  
shell plate 20" x 16" Section of compensating ring 2' 8 1/2", 2' 6" x 3 1/2" No. of rivets and diameter of rivet holes 36 @ 1" ✓  
Outer row rivet pitch at ends 5 1/2" Depth of flange if manhole flanged 3 5/8" 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 22 inclusive for boilers been complied with

Palmer, Shipbuilding & Iron Co., Ltd.  
The foregoing is a correct description,  
N. Brown  
Manager, Engine Works Manufacturer.

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has 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. 15 MAR 1929

Assigned See Minute on hwc. R/R  
S3900