

## REPORT ON BOILERS.

No. 81426

Received at London Office

9 JUN 1927

Writing Report 1-6-1927 When handed in at Local Office 3-6-1927 Port of

NEWCASTLE-ON-TYNE.

in Survey held at

Jarrow

Date, First Survey

9 July 1926

Last Survey

27 May 1927

1927

Sup. on the

S.S. "BRITISH INDUSTRY"

(Number of Visits

Gross 4500

Tons Net 2370

Built at Hebburn

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

Yard No. 963

When built 1927

es made at

Jarrow

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

Engine No. 963

When made 1927

s made at

"

By whom made

"

Boiler No. 963

When made 1927

al Horse Power

407

Owners British Tanker Co. Ltd

Port belonging to

London

LITUBULAR BOILERS—MAIN, ~~AUXILIARY, OR DONKEY.~~

Manufacturers of Steel The Steel Company of Scotland Ltd

(Letter for Record 3 (7))

Heating Surface of Boilers

5772

Is forced draught fitted

YES

Coal or Oil fired

OIL

nd Description of Boilers

2 CYLINDRICAL MULTITUBULAR

Working Pressure

200 LBS.

d by hydraulic pressure to

350 LBS.

Date of test 25.4.27, 27.4.27

No. of Certificate

139 140

Can each boiler be worked separately

YES

of Firegrate in each Boiler

No. and Description of safety valves to each boiler

TWO SPRING LOADED

of each set of valves per boiler

per Rule 20.1

as fitted 22.09

Pressure to which they are adjusted

200 LBS.

Are they fitted with easing gear

YES

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

No

lest distance between boilers or uptakes and bunkers or woodwork

3' 6"

Is oil fuel carried in the double bottom under boilers

No

lest distance between shell of boiler and tank top plating

OPEN FLOORS

Is the bottom of the boiler insulated

YES

est internal dia. of boilers

15' 9"

Length

12' 0"

Shell plates: Material

STEEL

Tensile strength 29-33 TONS

ness

1 13/32

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D.R.

seams

T.R. D.B.S.

Diameter of rivet holes in

circ. seams 1 5/8"

long. seams 1 1/2"

Pitch of rivets

4.985"

10"

centage of strength of circ. end seams

plate 67.2

rivets 46.8

Percentage of strength of circ. intermediate seam

plate

rivets

centage of strength of longitudinal joint

plate 85.0

rivets 93.4

combined 88.65

Working pressure of shell by Rules

204 LBS.

30cf.

kness of butt straps

outer 1 3/32"

inner 1 7/32"

No. and Description of Furnaces in each Boiler

3 CORRUGATED DEIGHTON SECTION

erial

STEEL

Tensile strength

26-30 TONS

Smallest outside diameter

3' 10 9/16"

th of plain part

top 10"

bottom 10"

Thickness of plates

crown 21/32"

bottom 21/32"

Description of longitudinal joint

WELD

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

Working pressure of furnace by Rules

206 LBS.

plates in steam space: Material

STEEL

Tensile strength

26-30 TONS

Thickness

1 3/8"

Pitch of stays 22 1/2 x 22"

are stays secured

DOUBLE NUTS &amp; WASHERS

Working pressure by Rules

200.3 LBS.

e plates: Material

front STEEL

back

Tensile strength

26-30 TONS

Thickness

1 1/16"

15/16"

n pitch of stay tubes in nests

9 3/8"

Pitch across wide water spaces

1' 2"

Working pressure

front 229 LBS.

back 200.5 LBS.

ers to combustion chamber tops: Material

STEEL

Tensile strength

28-32 TONS

Depth and thickness of girder

entre

9" x 1 1/2"

Length as per Rule

2' 10 9/32"

Distance apart

8"

No. and pitch of stays

ach

3 @ 9"

Working pressure by Rules

207.5 LBS.

Combustion chamber plates: Material

STEEL

ile strength

26-30 TONS

Thickness: Sides

23/32"

Back

13/16"

Top

23/32"

Bottom

7/8"

h of stays to ditto: Sides

9 1/2" x 9 1/4"

Back

9" x 8 1/4"

Top

9" x 8"

Are stays fitted with nuts or riveted over

BOTH

king pressure by Rules

207 LBS.

Front plate at bottom: Material

STEEL

Tensile strength

26-30 TONS

kness

1 1/16"

Lower back plate: Material

STEEL

Tensile strength

26-30 TONS

Thickness

31/32"

h of stays at wide water space

14" (17") x 9"

Are stays fitted with nuts or riveted over

NUTS

king Pressure

209.5 LBS.

Main stays: Material

STEEL

Tensile strength

28-32 TONS

meter

At body of stay,

3 5/8"

No. of threads per inch

6

Area supported by each stay

495

king pressure by Rules

207 LBS.

Screw stays: Material

IRON

Tensile strength

21 1/2 TONS

meter

At turned off part,

1 5/8"

No. of threads per inch

9

Area supported by each stay

19.25

W1630-0187



Working pressure by Rules 205 LBS<sup>2</sup> Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, ✓  
 No. of threads per inch 9 ✓ Area supported by each stay 119.6, 100-125, 88.6<sup>2</sup> Working pressure by Rules 204 LBS<sup>2</sup> ✓  
 Tubes: Material IRON ✓ External diameter { Plain 2 1/2" ✓ Thickness { 9 LSG ✓  
 Pitch of tubes 3 3/4" x 3 3/4" ✓ Working pressure by Rules 230 LBS<sup>2</sup> ✓ No. of threads per inch 9 ✓  
 shell plate 20" x 16" ✓ Section of compensating ring 3' 2" x 2' 10 1/2" x 1 5/16" ✓ No. of rivets and diameter of rivet holes 36 @ 1 1/2" ✓  
 Outer row rivet pitch at ends 10" ✓ Depth of flange if manhole flanged 4" ✓ 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 ✓  
 Internal diameter ✓ Working pressure by Rules ✓ Thickness of crown ✓ Rivets ✓  
 stays ✓ Inner radius of crown ✓ Working pressure by Rules ✓ No. and diameter ✓  
 How connected to shell ✓ Size of doubling plate under dome ✓ Diameter of rivet holes and ✓  
 of rivets in outer row in dome connection to shell ✓

Type of Superheater ✓ Manufacturers of { Tubes ✓  
 Number of elements ✓ Material of tubes ✓ Steel castings ✓  
 Material of headers ✓ Tensile strength ✓ Internal diameter and thickness of tubes ✓  
 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 and ✓  
 Rules ✓ Pressure to which the safety valves are adjusted ✓ Hydraulic test pressure by ✓  
 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

*Palmer Shipbuilding & Iron Co., Ltd.*  
*W. Brown*  
*Manager, Engine Works*  
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) *yes*  
 Total No. of visits

Dates of Survey { During progress of work in shops - - }  
 while building { During erection on board vessel - - }

*See Indy Report*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers were built under Special Survey, the workmanship and materials are good.

Survey Fee ... £ *See Indy Report* When applied for, 192  
 Travelling Expenses (if any) £ When received, 192

*Thomas Napier*  
 Engineer Surveyor to Lloyd's Register of Shipping, *Yorkin*

Committee's Minute  
 Assigned *See other Indy Rpt.*

FRI. 10 JUN 1927