

## REPORT ON BOILERS.

No. 83200

Received at London Office

1 SEP 1928

Date of writing Report

192

When handed in at Local Office

48-1928

Port of

Newcastle-on-Tyne

No. in Survey held at Reg. Book.

Wallsend-on-Tyne

Date, First Survey

12 Sept/27

Last Survey

2 Aug 1928

on the

New Steel S.S. "Caspia"

(Number of Visits)

6018

Tons

Gross 6018

Net 3720

Master

Built at

Walker

By whom built

Sir W. G. Armstrong &amp; Co. Ltd

Yard No. 1036

When built 1928

Engines made at

Wallsend-on-Tyne

By whom made

Wallsend Slipways &amp; Co. Ltd

Engine No. 845

When made 1928

Boilers made at

Wallsend-on-Tyne

By whom made

Wallsend Slipways &amp; Co. Ltd

Boiler No. 845

When made 1928

Nominal Horse Power

Owners

Port belonging to

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

Manufacturers of Steel

Steel Company of Scotland

(Letter for Record)

S.

Total Heating Surface of Boilers

4443 sq ft

Is forced draught fitted

yes

Coal or Oil fired

Coal &amp; oil.

No. and Description of Boilers

Three single ended

(S.S.E.) 358

Working Pressure

180 lbs

Tested by hydraulic pressure to

320

Date of test

6-2-28

No. of Certificate

236

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

63 sq ft

No. and Description of safety valves to each boiler

Two spring loaded high lift.

Area of each set of valves per boiler

per Rule 19-4 sq ft

Pressure to which they are adjusted

185 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

1'-6"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-8"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

15'-6 9/16"

Length

11'-9"

Shell plates: Material

Steel

Tensile strength

30 to 34 tons

Thickness

1 3/8"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

inter.

3.43"

long. seams

T. R. D. B. S.

Diameter of rivet holes in

circ. seams

long. seams

1 1/2"

Pitch of rivets

8"

Percentage of strength of circ. end seams

plate 64.6

rivets 42.7

Percentage of strength of circ. intermediate seam

plate 84.76

rivets 86.9

Percentage of strength of longitudinal joint

plate 84.76

rivets 86.9

Working pressure of shell by Rules

183 lbs

Thickness of butt straps

outer 1 1/2"

inner 1 1/2"

No. and Description of Furnaces in each Boiler

Three corrugated (Peighton)

Material

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

3'-10 1/4"

Length of plain part

top 1 1/2"

bottom 1 1/2"

Thickness of plates

crown 1 1/2"

bottom 1 1/2"

Description of longitudinal joint

weld.

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

none

Working pressure of furnace by Rules

186 lbs

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 5/16"

Pitch of stays

2 1/2" x 18 1/2"

How are stays secured

Double nuts

Working pressure by Rules

190 lbs

Tube plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness

7/8"

Mean pitch of stay tubes in nests

9 1/8"

Pitch across wide water spaces

13 1/4" x 4 3/4"

Working pressure

front 220 lbs

back 214 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

28 to 32 tons

Depth and thickness of girder

at centre

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

Length as per Rule

2'-10"

Distance apart

9 1/4"

No. and pitch of stays

in each

3 @ 8"

Working pressure by Rules

186 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

5/8"

Back

5/8"

Top

5/8"

Bottom

2 5/32"

Pitch of stays to ditto: Sides

8 x 9 1/4"

Back

8 5/8" x 8 3/8"

Top

8 x 9 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

181 lbs

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons

Thickness

7/8"

Pitch of stays at wide water space

14" x 8 5/8"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

232 lbs

Main stays: Material

Steel

Tensile strength

28 to 32 tons

Diameter

At body of stay, 3 1/2" x 3 1/4"

No. of threads per inch

6

Area supported by each stay

22 1/2" x 22 1/2"

Working pressure by Rules

187 x 192

Screw stays: Material

Steel

Tensile strength

26 to 30 tons

Diameter

At turned off part, 1 7/8"

No. of threads per inch

9

Area supported by each stay

9 1/4" x 8"

W1125-0014



Working pressure by Rules *205 lbs* Are the stays drilled at the outer ends *no* Margin stays: Diameter { At turned off part, *1 1/8"* Over threads *222 lbs*  
No. of threads per inch *9* Area supported by each stay *11 3/16" x 8 5/8"* Working pressure by Rules *222 lbs*  
Tubes: Material *Iron* External diameter { Plain *8 1/2"* Thickness *8 i.w.g.* No. of threads per inch *9*  
Pitch of tubes *3 1/8" x 3 3/4"* Working pressure by Rules *WWS 181 lbs* Manhole compensation: Size of opening in shell plate *16" x 20"* Section of compensating ring *13 3/8" x 1 1/2"* No. of rivets and diameter of rivet holes *44 @ 1 9/32"*  
Outer row rivet pitch at ends *8 1/2"* Depth of flange if manhole flanged *3"* Steam Dome: Material *none*  
Tensile strength *1801* Thickness of shell *8 i.w.g.* Description of longitudinal joint  
Diameter of rivet holes *7/8"* Pitch of rivets *2 1/2"* Percentage of strength of joint { Plate *100%* Rivets *100%*  
Internal diameter *6 1/2"* Working pressure by Rules *WWS 181 lbs* Thickness of crown *8 i.w.g.* No. and diameter of stays  
How connected to shell *WWS 181 lbs* Inner radius of crown *WWS 181 lbs* Working pressure by Rules  
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

Number of elements Material of tubes Manufacturers of Tubes Steel castings Internal diameter and thickness of tubes  
Material of headers Tensile strength Thickness Can the superheater be shut off and the boiler be worked separately  
Area of each safety valve Is a safety valve fitted to every part of the superheater which can be shut off from the boiler  
Rules 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 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

FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED

The foregoing is a correct description,

Manufacturer.

Dates of Survey { During progress of work in shops - - - } Please see Machinery Report. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
while building { During erection on board vessel - - - } 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. Efficiently fired in the vessel 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 FRI. 7 SEP 1928

Assigned

See p. 6 ypt. attached



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