

## REPORT ON BOILERS.

Std. No. 30483

Mou No. 14174

Received at London Office 28 JUL 1930

Date of writing Report

25. 7. 1930

When handed in at Local Office

25. 7. 1930

Port of

MIDDLESBROUGH.

No. in Survey held at

STOCKTON.

Date, First Survey

6 May

Last Survey

25. 7. 1930.

Reg. Book.

on the

MOTOR SHIP "VIGILIS"

(Number of Visits)

17

Tons

Gross 6094

Net 3624

Master

Built at

Sunderland

By whom built

J. K. Thompson &amp; Co Ltd

Yard No. 57

When built 1920

Engines made at

Sunderland.

By whom made

Wm. Dore &amp; Sons Ltd.

Engine No. 179

When made 1920.

Boilers made at

Stockton

By whom made

Riley Bros (Boilermakers) Ltd

Boiler No. 5992

When made 1930

Nominal Horse Power

578.

Owners

Brunn Von der Lippe

Port belonging to

Hamburg.

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

Manufacturers of Steel

David Colville &amp; Sons Ltd.

Total Heating Surface of Boilers

1519 sq. ft.

Is forced draught fitted

Yes

(Letter for Record S.)

wing - oil

Coal or Oil fired

Cent. Schan. 1924

No. and Description of Boilers

1 S.B.

Working Pressure 150 lbs.

Tested by hydraulic pressure to

275 lb.

Date of test

25. 7. 30

No. of Certificate

6811.

Can each boiler be worked separately

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

APPROVED SEE SEC LETTER 15/10/30 APPROVED

Area of each set of valves per boiler

per Rule

11.8 sq. ft.

Pressure to which they are adjusted

155 lb.

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

10'-0"

Is oil fuel carried in the double bottom under boilers

Yes

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

11'-0"

Shell plates: Material

Steel

Tensile strength

29/33.

Thickness

3/32"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

long. seams T.R.D.B.S. (6 rivets)

Diameter of rivet holes in

circ. seams

1 1/2"

Pitch of rivets

3 1/4"

Percentage of strength of circ. end seams

plate

68.3.

Percentage of strength of circ. intermediate seam

plate

86.3.

Percentage of strength of longitudinal joint

plate

90.4

Working pressure of shell by Rules

151 lbs.

Thickness of butt straps

outer

9/16"

Material

Steel

No. and Description of Furnaces in each Boiler

2 C.F. and 1 P.F.

Length of plain part

top

7'-7"

Thickness of plates

crown

C.F. = 3/8"

Description of longitudinal joint

Welded

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

Working pressure of furnace by Rules

C.F. = 182 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30.

Thickness

7/16"

Pitch of stays 18" x 18" (mean).

How are stays secured

D.N. &amp; W.

Working pressure by Rules

156 lbs.

Tube plates: Material

front

Steel

Tensile strength

26/30.

Thickness

5/8"

Mean pitch of stay tubes in nests

wing

8 3/4"

Pitch across wide water spaces

12" x 7" and

Working pressure

front 216 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32.

Depth and thickness of girder

at centre 7 3/4" x 5" (double)

Length as per Rule

2'-5"

Distance apart

9"

No. and pitch of stays

in each

2-9"

Working pressure by Rules

170 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30.

Thickness: Sides

19/32"

Back

11/16"

Top

19/32"

Bottom

wing 19/32"

Pitch of stays to ditto: Sides

9" x 9"

Back

7 1/2" x 9 1/2"

Top

9" x 9"

Are stays fitted with nuts or riveted over

Working pressure by Rules

150 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30.

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26/30.

Thickness

13/16"

Pitch of stays at wide water space

13 1/2" x 8"

Are stays fitted with nuts or riveted over

nuts.

Working Pressure

293 lbs.

Main stays: Material

Steel

Tensile strength

28/32.

Diameter

At body of stay,

2 3/4"

No. of threads per inch

6.

Area supported by each stay

356 sq. in.

Working pressure by Rules

154 lbs.

Screw stays: Material

Steel

Tensile strength

26/30.

Diameter

At turned off part,

1 1/2"

No. of threads per inch

9.

Area supported by each stay

79.2 sq. in.



Working pressure by Rules 158 lbs. Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, or Over threads 1 7/8"
No. of threads per inch 9. Area supported by each stay 86.4 sq. in. Working pressure by Rules 175 lbs.
Tubes: Material iron External diameter { Plain 2 1/2" 2 3/4" Thickness 9/16" No. of threads per inch 9.
Pitch of tubes Centre 2 3/4" x 2 3/4" Working pressure by Rules 175 lbs. Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 7" x 16" No. of rivets and diameter of rivet holes 44 - 1 5/16"
Outer row rivet pitch at ends 6" Depth of flange if manhole flanged 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 Ys.
The foregoing is a correct description, J. L. Childs Manufacturer.

Dates of Survey { During progress of work in shops - - 1930 May 6, 15, 21, 23, June 2, 5, 17, 22, 26
while building { During erection on board vessel - - - July 1, 5, 7, 11, 16, 18, 22, 25.
Are the approved plans of boiler and superheater forwarded herewith Ys.
Total No. of visits 17

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
The materials and workmanship are good.
This boiler has been built under special survey in accordance with the Rule and approved Plan. It will be installed at Sunderland.
This boiler has been satisfactorily fitted in the vessel & the safety valves admitted under them. For notation see machinery report.

Survey Fee ... £ 10-2-0 When applied for Monthly
Travelling Expenses (if any) £ : : When received X 192

P. J. MacArthur
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 28 OCT 1930
Assigned See F. E. Rpt.