

# REPORT ON BOILERS.

Sld. No. 32139  
Mob No. 15999

Received at London Office MAY 18 1937

of writing Report

19

When handed in at Local Office

13. 8. 10

Port of MIDDLESBROUGH.

To. in Survey held at

STOCKTON.

Date, First Survey

8 Dec/36

Last Survey

7 May 1937

Book.

on the

"BIDDLESTONE"

(Number of Visits 22)

Gross 4910  
Net 2953

ster

Built at

Lunduland

By whom built

Short Bros Ltd

Yard No.

450

When built

1934

gines made at

Newcastle

By whom made

White Marine Eng. Co.

Engine No.

110

When made

1934

ilers made at

Stockton

By whom made

Stockton Chem. Eng. & Riley Works

Boiler No.

6245/6

When made

1937

iminal Horse Power

Owners

The White Shipping Co. Ltd

Port belonging to

Newcastle.

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

Manufacturers of Steel

Appleby - Frodingham Steel Co Ltd.

(Letter for Record S.)

total Heating Surface of Boilers

3450 sq. ft.

Is forced draught fitted

Yes.

Coal or Oil fired

coal

No. and Description of Boilers

2 SB.

Working Pressure

240 lbs.

tested by hydraulic pressure to

410 lbs.

Date of test

6245-23.4.37.

No. of Certificate

6245-6912.

Can each boiler be worked separately

Yes.

Area of Firegrate in each Boiler

40 sq. ft.

No. and Description of safety valves to each boiler

Two "Improved High Lift" (backburn) Yes.

Area of each set of valves per boiler

per Rule 4.22 sq. in.

as fitted

4.8 sq. in.

Pressure to which they are adjusted

240

Are they fitted with easing gear

Yes.

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

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

1'-6"

Is oil fuel carried in the double bottom under boilers

No.

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

13'-0"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

30/34.

Thickness

1 1/4"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

inter.

g. seams

T.R.D.B.S. (5 rivets)

Diameter of rivet holes in

circ. seams

1 3/8"

Pitch of rivets

3 7/8"

Percentage of strength of circ. end seams

plate 64.5.  
rivets 44.3.

Percentage of strength of circ. intermediate seam

plate 85.5.  
rivets 85.1.  
combined 87.9.

Percentage of strength of longitudinal joint

plate 85.5.  
rivets 85.1.  
combined 87.9.

Working pressure of shell by Rules

244 lbs.

Thickness of butt straps

outer 1 1/8"  
inner 1 1/8"

No. and Description of Furnaces in each Boiler

3 cf.

Material

Steel

Tensile strength

26/30.

Smallest outside diameter

3'-0 1/2"

Length of plain part

top  
bottom

Thickness of plates

crown 7/8"  
bottom 7/8"

Description of longitudinal joint

weld.

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

Working pressure of furnace by Rules

251 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30.

Thickness

1 1/6"

Pitch of stays

19" x 16"

How are stays secured

D.N.s.

Working pressure by Rules

261 lbs.

Tube plates: Material

front Steel  
back Steel

Tensile strength

26/30.

Thickness

27"

Lean pitch of stay tubes in nests

8 1/2"

Pitch across wide water spaces

14" x 3 7/8"

Working pressure

front 308 lbs.  
back 282 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32.

Depth and thickness of girder

centre 10 1/2" x 3 1/4" (double)

Length as per Rule

2'-11"

Distance apart

9"

No. and pitch of stays

each 3'-8 1/2"

Working pressure by Rules

240 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30.

Thickness: Sides

3/32"

Back

7/16"

Top

3/32"

Bottom

7/8"

Pitch of stays to ditto: Sides

9" x 8 1/2"

Back

7 1/2" x 7 1/2"

Top

9" x 8 1/2"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

251 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30.

Thickness

1 1/6"

Lower back plate: Material

Steel

Tensile strength

26/30.

Thickness

1"

Pitch of stays at wide water space

14 1/2" x 7 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

310 lbs.

Main stays: Material

Steel

Tensile strength

28/32.

Diameter

At body of stay, 3 1/4"  
Over threads

No. of threads per inch

6.

Area supported by each stay

295.7

Working pressure by Rules

272 lbs.

Screw stays: Material

Steel

Tensile strength

26/30.

Diameter

At turned off part, 1 3/4"  
Over threads

No. of threads per inch

9.

Area supported by each stay

76

W188-0022



Working pressure by Rules 245 lbs. Are the stays drilled at the outer ends no. Margin stays: Diameter 1 7/8" At turned off part, or Over threads 1 7/8"

No. of threads per inch 9. Area supported by each stay 79.7 sq in Working pressure by Rules 267 lbs.

Tubes: Material lap welded iron External diameter 2 1/2" to 2 3/4" Thickness 3/16" No. of threads per inch 9

Pitch of tubes 3 1/4" x 3 1/8" Working pressure by Rules p. 300 lbs. s. 276 lbs. Manhole compensation: Size of opening 10" x 1 1/8"

shell plate 20 x 16" Section of compensating ring 10" x 1 1/8" No. of rivets and diameter of rivet holes 48 - 1 1/8"

Outer row rivet pitch at ends 9 7/16" Depth of flange if manhole flanged 2 3/16" Steam Dome: Material iron

Tensile strength 30,000 Thickness of shell 3/16" Description of longitudinal joint butt

Diameter of rivet holes 1 1/8" Pitch of rivets 2 1/2" Percentage of strength of joint 80%

Internal diameter 24" Working pressure by Rules 245 lbs. Thickness of crown 3/16" No. and diameter of rivets 48 - 1 1/8"

stays 4 Inner radius of crown 12" Working pressure by Rules 245 lbs.

How connected to shell by stays Size of doubling plate under dome 10" x 16" Diameter of rivet holes and pitch 1 1/8" x 2 1/2"

of rivets in outer row in dome connection to shell 4

Type of Superheater Suqden Manufacturers of The Superheater Co Ltd.

Number of elements 24 Material of tubes Solid Drawn Steel Internal diameter and thickness of tubes 1 1/2" x 3/16"

Material of headers Steel Tensile strength (man.) Thickness (man.) Can the superheater be shut off yes

the boiler be worked separately yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes

Area of each safety valve 30" Are the safety valves fitted with easing gear yes Working pressure as set 240 lbs.

Rules 240 lbs. Pressure to which the safety valves are adjusted 240 lbs. Hydraulic test pressure 480 lbs.

tubes 1000 lbs., castings 720 lbs. and after assembly in place 480 lbs. Are drain cocks or valves fitted yes

to free the superheater from water where necessary yes

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes For and on behalf of Stockton Chemical Engineers & Riley Rollers Ltd.

The foregoing is a correct description, Guo W. Riley Manufacturer

Dates of Survey During progress of work in shops - 1937 Dec 16, 21, 28, 31, 1937 Jan 7, 13, 19, 22, Feb 5 Are the approved plans of boiler and superheater forwarded herewith yes

while building During erection on board vessel - 9, 17, 25 Mar 2, 10, 18, 19, 31 Apr 6, 14, 23, 25 May 7 (If not state date of approval.)

Total No. of visits 12

Is this Boiler a duplicate of a previous case no. If so, state Vessel's name and Report No. /

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The materials and workmanship are good.

These boilers have been built under special survey in accordance with the Rules and Approved Plan. They will be fitted aboard at Sunderland.

These boilers have now been securely fixed on board the vessel, examined under steam, safety valves of boilers & superheater adjusted to working pressure & accumulation test carried out satisfactorily.

In recommendation please see Insp. Rpt.

Post. K. asin.

Survey Fee £ 23-0-0. When applied for 14-8-1937

Travelling Expenses (if any) £ : When received 25.6.1937

P. J. M. A. & Co. Moffatt  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute TUE 20 JUL 1937

Assigned See Sla 32139

© 2020 Lloyd's Register Foundation