

REPORT ON BOILERS.

No. 109646

OCT -6 1937

Received at London Office

Date of writing Report

19

When handed in at Local Office

19

Port of

LIVERPOOL

No. in Survey held at

Birkenhead

Date, First Survey

9/11/36

Last Survey

17/9/

1937

Reg. Book

on the

M. v. 'Aldersdale'

(Number of Visits)

123

Tons

Gross 8402

Net 5009

Master

Built at

Birkenhead

By whom built

Cammell Laird & Co. Ltd.

Yard No.

1025

When built

1937

Engines made at

Sunderland

By whom made

Wm. Duxford & Sons Ltd.

Engine No.

200

When made

1937

Boilers made at

Birkenhead

By whom made

Cammell Laird & Co. Ltd.

Boiler No.

1025

When made

1937

Nominal Horse Power

Owners

Admiralty

Port belonging to

London

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Co. of Scotland

Steyn & Consett Works

(Letter for Record 5)

Total Heating Surface of Boilers

1465 sq. ft.

Is forced draught fitted

Yes

Coal or Oil fired

oil fired

No. and Description of Boilers

One cylindrical multitubular

Working Pressure

150 lb. sq. in.

Tested by hydraulic pressure to

275 lb. sq. in.

Date of test

16.4.37

No. of Certificate

2469

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

✓

No. and Description of safety valves to each boiler

2 spring loaded - high lift

Area of each set of valves per boiler

per Rule 5.58 sq. in.
as fitted 6.28 sq. in.

Pressure to which they are adjusted

150 lb. sq. in.

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

3'0"

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

2'0"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

11'6"

Length

11'6"

Shell plates: Material

Steel

Tensile strength

29-33 tons sq. in.

Thickness

25/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D.R. lap

Long. seam

Double R. double butt

Diameter of rivet holes in

circ. seams 15/16"
long. seams 15/16"

Pitch of rivets

2.693"
67/8"

Percentage of strength of circ. end seams

plate 65.2
rivets 57

Percentage of strength of circ. intermediate seam

plate ✓
rivets ✓

Percentage of strength of longitudinal joint

plate 85
rivets 104
combined 90.8

Working pressure of shell by Rules

150 lb. sq. in.

Thickness of butt straps

outer 5/8"
inner 3/4"

No. and Description of Furnaces in each Boiler

Two Corrugated

Material

Steel

Tensile strength

26-30 tons sq. in.

Smallest outside diameter

3'-2 7/8"

Length of plain part

top ✓
bottom ✓

Thickness of plates

crown 7/16"
bottom 7/16"

Description of longitudinal joint

weld

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

None

Working pressure of furnace by Rules

160 lb. sq. in.

End plates in steam space: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness

15/16"

Pitch of stays

16 x 16"

How are stays secured

double nuts & thin washers

Working pressure by Rules

160 lb. sq. in.

Tube plates: Material

front Steel
back Steel

Tensile strength

26-30 tons sq. in.

Thickness

15/16"

Pitch of stays

16 x 16"

Mean pitch of stay tubes in nests

9 3/8"

Pitch across wide water spaces

13 1/2" x 7 1/2"

Working pressure

front 183 lb. sq. in.
back 157 lb. sq. in.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons sq. in.

Depth and thickness of girder

At centre

2 plates 7' x 2 1/2"

Length as per Rule

29 7/8"

Distance apart

8"

No. and pitch of stays

At each end

two 8 1/2"

Working pressure by Rules

157 lb. sq. in.

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness: Sides

19/32"

Back

23/32"

Top

19/32"

Bottom

7/8"

Pitch of stays to ditto:

Sides 9 1/4" x 8"

Back

9 x 8 3/16"

Top

8 1/2" x 8"

Are stays fitted with nuts or riveted over

riveted, marginal

Working pressure by Rules

153 lb. sq. in.

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness

15/16"

Pitch of stays at wide water space

14 x 9"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

225 lb. sq. in.

Main stays: Material

Steel

Tensile strength

28-32 tons sq. in.

Diameter

At body of stay, 2 3/8"
Over threads

No. of threads per inch

6

Area supported by each stay

256 sq. in.

Working pressure by Rules

153 lb. sq. in.

Screw stays: Material

Steel

Tensile strength

26-30 tons sq. in.

Diameter

At end of part, 1 1/2" x 1 9/8"
Over threads

No. of threads per inch

9

Area supported by each stay

78 sq. in.



Working pressure by Rules *1624 lb* Are the stays drilled at the outer ends *no* Margin stays: Diameter *1 7/8"*
No. of threads per inch *9* Area supported by each stay *100 sq* Working pressure by Rules *1534 lb*
Tubes: Material *B.B. Iron* External diameter *2 1/2"* Thickness *5/16"* No. of threads per inch *9*
Pitch of tubes *3 3/4" x 3 3/4"* Working pressure by Rules *2044 lb* Manhole compensation: Size of opening
shell plate *17 1/4" x 21 1/4"* Section of compensating ring *7 5/8" x 7/8"* No. of rivets and diameter of rivet holes *44 @ 1 9/16"*
Outer row rivet pitch at ends *6 3/8"* Depth of flange if manhole flanged *3 1/4"* Steam Dome: Material *none*
Tensile strength ☒ Thickness of shell ☒ Description of longitudinal joint ☒
Diameter of rivet holes ☒ Pitch of rivets ☒ Percentage of strength of joint ☒
Internal diameter ☒ Working pressure by Rules ☒ Thickness of crown ☒ No. and diameter
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 *none* Manufacturers of ☒
Number of elements ☒ Material of tubes ☒ Internal diameter and thickness of tubes ☒
Material of headers ☒ Tensile strength ☒ Thickness ☒ Can the superheater be shut off
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
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 *Yes*

W.H. Newman
MANAGER

Dates of Survey ☒ During progress of work in shops - - - *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

Is this Boiler a duplicate of a previous case *Yes* If so, state Vessel's name and Report No. *British Fortitude, Lir 1089*

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

This boiler has been constructed under special survey, and is in accordance with the Rules and the approved plan. The workman is good throughout. It has been satisfactorily fitted on board, and examined under steam, & is eligible in my opinion for record of D.B. in Register book.

Survey Fee *See attached Report* When applied for, 19
Travelling Expenses (if any) £ When received, 19

J. J. Milton

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute *LIVERPOOL - 5 OCT 1937*

Assigned *See Machinery rpt.*