

REPORT ON BOILERS.

No. 16372

Received at London Office

Date of writing Report

19

When handed in at Local Office

26. 7. 1938

Port of

Middlesbrough

No. in
Book.

Survey held at

Stockton

Date, First Survey

10 Dec 1937

Last Survey

17 June 1938

on the

M.V. "CERION"

(Number of Visits

13

Gross

Tons

Net

Master

Built at

South Bank

By whom built

Smith's Dock Co Ltd

Yard No.

1054

When built

1938

Engines made at

Schiedamsche

By whom made

Werkspoor Rotterdam

Engine No.

187328

When made

1938

Boilers made at

Stockton

By whom made

S.P. & Riley Boilers Ltd.

Boiler No.

6287

When made

1938

Nominal Horse Power

Owners

Port belonging to

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Company of Scotland Ltd & Colvilles Ltd.

(Letter for Record S)

Total Heating Surface of Boilers

1530 sq. ft.

Is forced draught fitted

yes

Coal or Oil fired

oil

No. and Description of Boilers

1 donkey boiler

Working Pressure

180 lb.

Tested by hydraulic pressure to

320

Date of test

17. 6. 38

No. of Certificate

6943

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

2

No. and Description of safety valves to each boiler

2 Cockburn high lift

Area of each set of valves per boiler

per Rule

as fitted

2" dia

Pressure to which they are adjusted

185

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

yes

Is oil fuel carried in the double bottom under boilers

yes

Smallest distance between shell of boiler and tank top plating

yes

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

11'-8"

Length

10'-8"

Shell plates: Material

S

Tensile strength

29-33

Thickness

1"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

inter.

DR

Long. seams

T.R. D B S

Diameter of rivet holes in

circ. seams

1 1/16"

long. seams

1 1/16"

Pitch of rivets

3 1/2"

7 1/2"

Percentage of strength of circ. end seams

plate

67.3%

rivets

43.4%

Percentage of strength of circ. intermediate seam

plate

85.8%

rivets

yes

Percentage of strength of longitudinal joint

plate

85.8%

rivets

88.2%

Working pressure of shell by Rules

194 lbs.

Thickness of butt straps

outer

3/4"

inner

7/8"

No. and Description of Furnaces in each Boiler

3 cf.

Material

S

Tensile strength

26-30

Smallest outside diameter

32 1/8"

Length of plain part

top

bottom

yes

Thickness of plates

crown

7/16"

bottom

Description of longitudinal joint

weld

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

yes

Working pressure of furnace by Rules

194.8 lbs.

End plates in steam space: Material

S

Tensile strength

26-30

Thickness

1"

Pitch of stays

16 1/2" x 15 1/2"

How are stays secured

D N T W

Working pressure by Rules

180 lbs.

Tube plates: Material

front

back

S

Tensile strength

26-30

Thickness

1"

7/8"

Mean pitch of stay tubes in nests

9 3/4"

Pitch across wide water spaces

14 1/4"

Working pressure

front

back

189 lbs.

290 lbs.

Girders to combustion chamber tops: Material

S

Tensile strength

28-32

Depth and thickness of girder

at centre

8 x 2 3/32" double

Length as per Rule

25 7/8"

Distance apart

8 7/8"

No. and pitch of stays

in each

2 @ 8 1/4"

Working pressure by Rules

283 lbs.

Combustion chamber plates: Material

S

Tensile strength

26-30

Thickness: Sides

2 3/32"

Back

3/4"

Top

2 3/32"

Bottom

1"

Pitch of stays to ditto: Sides

8 1/4" x 7 1/4"

Back

9 1/4" x 6 7/16"

Top

8 1/4" x 8 7/8"

Are stays fitted with nuts or riveted over

margin milled riveted

Working pressure by Rules

200 lbs.

Front plate at bottom: Material

S

Tensile strength

26-30

Thickness

1"

Lower back plate: Material

S

Tensile strength

26-30

Thickness

1"

Pitch of stays at wide water space

14 1/4" x 6 27/32" mean

Are stays fitted with nuts or riveted over

nuts

Working Pressure

330 lbs.

Main stays: Material

S

Tensile strength

28-32

Diameter

At body of stay,

or

Over threads

2 3/4"

No. of threads per inch

6

Area supported by each stay

221 sq. in.

Working pressure by Rules

250 lbs.

Screw stays: Material

S

Tensile strength

26-30

Diameter

At turned off part,

or

Over threads

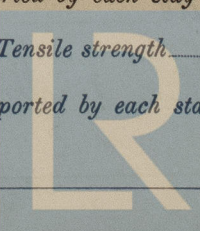
1 1/2"

No. of threads per inch

9

Area supported by each stay

62.5 sq. in.



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Foundation

Working pressure by Rules 202. Are the stays drilled at the outer ends yes Margin stays: Diameter { At turned off part, 1 5/8"
or
Over threads
No. of threads per inch 9 Area supported by each stay 80.50" Working pressure by Rules 187 lbs
Tubes: Material top weld iron External diameter { Plain 2 3/4" Thickness { 9/16" No. of threads per inch 9
Stay
Pitch of tubes 3 7/8" x 2 7/8" Working pressure by Rules 226 lbs Manhole compensation: Size of opening in
shell plate 20" x 16" Section of compensating ring 6" x 1 7/8" No. of rivets and diameter of rivet holes 40 @ 1 1/2" dia
Outer row rivet pitch at ends 7 1/2" 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 yes

or and on behalf of
Stockton Chemical Engineers & Shipbuilders Ltd.
The foregoing is a correct description.
C. H. Riley
Director

Dates of Survey { During progress of work in shops - - - 1917 Dec 10 1918 Jan 5-20 Feb 16 Are the approved plans of boiler and superheater forwarded herewith yes
while building { During erection on board vessel - - - Mar 16 Apr 5 May 4 10.18.27
June 9. 17 (If not state date of approval.)
Total No. of visits 13

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.) This boiler has been made under special survey in accordance with the requirements of the Rules & the approved Plan. The material & workmanship are good & the boiler was found sound & tight under 320 lbs. hydraulic pressure. The boiler is to be fitted on board at Edinburgh.

This boiler has been fitted on board & found satisfactory under steam. The safety valves adjusted to 185 lbs. Washers 2 3/4" & a satisfactory accumulation test has been held.

Reilly

Survey Fee ... £ 10 : 4 : 0 When applied for, 27. 7. 1918
Travelling Expenses (if any) £ : : When received, 17. 11. 1918

Reilly
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 6 JAN 1939

Assigned

See Mdb. F.E. machy rpt 16-90



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