

REPORT ON BOILERS.

Received at London Office

Date of writing Report

19

When handed in at Local Office

26.7.1938

Port of

Middlesbrough

No. in Survey held at

Stockton

Date, First Survey

10 Dec 1937

Last Survey

17 June 1938

1938

on the

M.V. "CERION"

(Number of Visits 13)

Tons { Gross Net

Master

Built at South Bank

By whom built Smith's Dock Co. Ltd

Yard No. 1054

When built 1938

Engines made at

Schiedamskadijk Rotterdam

By whom made

M.V. 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 lbs

Tested by hydraulic pressure to

320

Date of test 17.6.38

No. of Certificate 6943

Can each boiler be worked separately

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2 Cockburn high lift

Area of each set of valves per boiler

per Rule 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

Smallest distance between boilers or uptakes and bunkers or woodwork

Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

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 DR

Long. seams

T.R. D B S

Diameter of rivet holes in

circ. seams 1 1/16"

Pitch of rivets

3/8"

Percentage of strength of circ. end seams

plate 67.3%

Percentage of strength of circ. intermediate seam

plate rivets

Percentage of strength of longitudinal joint

plate rivets 85.8%

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 of

Material S

Tensile strength

26-30

Smallest outside diameter

32 1/2"

Length of plain part

top bottom

Thickness of plates

crowns 7/16"

Description of longitudinal joint

weld

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

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 9 W

Working pressure by Rules

180 lbs

Tube plates: Material

front S

back S

Tensile strength

26-30

Thickness

1"

front 189 lbs

back 29 lbs

Mean pitch of stay tubes in nests

9 3/4"

Pitch across wide water spaces

14 1/4"

Working pressure

front 189 lbs

back 29 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 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 2 3/2" 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,

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,

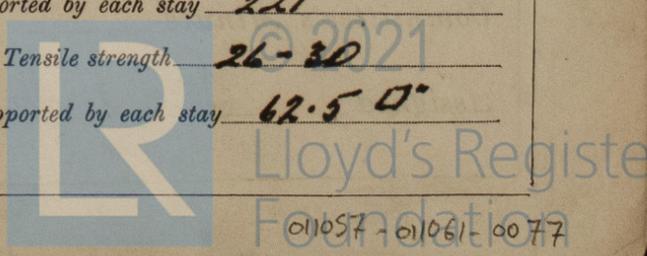
1 1/2"

No. of threads per inch

9

Area supported by each stay

62.5 sq in



Working pressure by Rules **202**. Are the stays drilled at the outer ends **yes** Margin stays: Diameter **1 7/8"**
 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 **2 3/4"** Thickness **9/16"** No. of threads per inch **9**
 Pitch of tubes **3 7/16" 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**
 Internal diameter _____ Working pressure by Rules _____ Thickness of crown _____ Rivets
 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
 Manufacturer

Dates of Survey **During progress of work in shops - - -** **1937: Dec 10 1938: 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** (If not state date of approval.)
June 9. 13. 17 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 3/16" & a satisfactory accumulation test has been held.
Reilly

Survey Fee £ **10 : 4 : 0** When applied for, **27. 7. 1938**
 Travelling Expenses (if any) £ : : When received, **17. 11. 1938**

Reilly
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **FRI 6 JAN 1939**
 Assigned **See Indb. F.E. machy rpt 16490**

