

Rpt. 5a.

REPORT ON BOILERS

Sld. No. 28876

Mach. No. 11933

TUE. JUL 29 1924

THU. MAY. 8 1924

Received at London Office

Date of writing Report

192

When handed in at Local Office

6.5.24

Port of

Middlesbrough

21 July 1924

No. in Survey held at
Reg. Book.

Stockton-on-Tees

Date, First Survey

12th January

Last Survey

24th April 1924

on the

S/S "MERVYN"

(Number of Visits)

13

Gross

3402

Net

2066

Master

Built at Sunderland

By whom built R. Thompson & Sons

Yard No.

721

When built 1924

Engines made at

Sunderland

By whom made

G. Clark & Co

Engine No.

1132

When made 1924

Boilers made at

Stockton

By whom made

Messrs. Riley Bros Ltd

Boiler No.

5450

When made 1924

Nominal Horse Power

Owners

Messrs. Montgomerie & Co

Port belonging to

Cardiff

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Messrs. John Spencer & Sons Ltd

(Letter for Record)

(S)

Total Heating Surface of Boilers

925 sq ft

Is forced draught fitted

NO

Coal or Oil fired

COAL

No. and Description of Boilers

One single ended.

Working Pressure

120

Tested by hydraulic pressure to

230

Date of test

29-4-24

No. of Certificate

6359

Can each boiler be worked separately

✓

Area of Firegrate in each Boiler

3 1/2

No. and Description of safety valves to each boiler

Two spring valves

Area of each set of valves per boiler

per Rule

8.5

as fitted

8.86

Pressure to which they are adjusted

124 lbs

Are they fitted with easing gear

YES

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

NO

Smallest distance between boilers or uptakes and bunkers

or woodwork

18"

Is oil fuel carried in the double bottom under boilers

NO

Smallest distance between shell of boiler and tank top plating

Boiler on upper deck

Is the bottom of the boiler insulated

NO

Largest internal dia. of boilers

10'-6"

Length

9'-6"

Shell plates: Material

steel

Tensile strength

28-32

Thickness

5/8"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

Double Riv Lap

long. seams

2B-3R (4 rivets)

Diameter of rivet holes in

circ. seams

15/16

long. seams

13/16

Pitch of rivets

3" x 6"

5 1/16

Percentage of strength of circ. end seams

plate

68.66

rivets

45.00

Percentage of strength of circ. intermediate seam

plate

83.99

rivets

101.0

Percentage of strength of longitudinal joint

plate

83.99

rivets

101.0

combined

112

Working pressure of shell by Rules

122

Thickness of butt straps

outer

1/2"

inner

5/8"

No. and Description of Furnaces in each Boiler

2 plain

Material

steel

Tensile strength

26-30

Smallest outside diameter

39"

Length of plain part

top

70 7/8"

bottom

97"

Thickness of plates

crown

19/32"

bottom

22/32"

Description of longitudinal joint

Welded

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

None

Working pressure of furnace by Rules

127

End plates in steam space: Material

steel

Tensile strength

26-30

Thickness

23/32"

Pitch of stays

14 1/2" x 14"

How are stays secured

Double nuts, L. washers & doubling strip

Working pressure by Rules

118

Tube plates: Material

front

steel

back

steel

Tensile strength

26-30

Thickness

23/32"

5/8"

Mean pitch of stay tubes in nests

9 1/4"

Pitch across wide water spaces

14 1/4" x 8"

Working pressure

front

130

back

160

Girders to combustion chamber tops: Material

steel

Tensile strength

28-32

Depth and thickness of girder

at centre

5 1/4" x 1 1/2"

Length as per Rule

26"

Distance apart

7 1/4"

No. and pitch of stays

in each

2 @ 8"

Working pressure by Rules

121

Combustion chamber plates: Material

steel

Tensile strength

26-30

Thickness: Sides

1/2"

Back

9/16"

Top

1/2"

Bottom

13/16"

Pitch of stays to ditto: Sides

8 1/2" x 8"

Back

9 1/2" x 9"

Top

7 1/4" x 8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

124

Front plate at bottom: Material

steel

Tensile strength

26-30

Thickness

23/32"

Lower back plate: Material

steel

Tensile strength

26-30

Thickness

23/32"

Pitch of stays at wide water space

13 1/2" x 9 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

152

Main stays: Material

steel

Tensile strength

28-32

Diameter

At body of stay

2 7/8"

Over threads

2 1/2"

No. of threads per inch

6

Area supported by each stay

206019

Working pressure by Rules

127 lbs

Screw stays: Material

steel

Tensile strength

26-30

Diameter

At turned off part

1 1/2"

Over threads

1 1/2"

No. of threads per inch

9

Area supported by each stay

206019

W422-0015

Lloyd's Register
Foundation

Working pressure by Rules 147 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 1/2 or Over threads 1 1/2

No. of threads per inch 9 Area supported by each stay 102 Working pressure by Rules 122

Tubes: Material iron External diameter { Plain 2 3/4 Stay 2 3/4 Thickness { N=10-455 5/16 No. of threads per inch 9

Pitch of tubes 4" x 4" Working pressure by Rules 160 + 188 lb Manhole compensation: Size of opening in shell plate 16" x 20" Section of compensating ring 7 x 3/4" h.c. rail No. of rivets and diameter of rivet holes 36 @ 1 5/8 dia

Outer row rivet pitch at ends 6" Depth of flange if manhole flanged ✓ Steam Dome: Material iron

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 23 inclusive for boilers been complied with

FOR
RILEY BROS. (BOILERMAKERS) LIMITED
The foregoing is a correct description,
J. H. Shields SECRETARY, Manufacturer.

Dates of Survey { During progress of work in shops -- 1924, Aug. 12, 29, Sep. 7, 14, 26, 1924 Are the approved plans of boiler and superheater forwarded herewith yes
while building { During erection on board vessel -- Oct. 21, 28, Nov. 8, 14, 24, 29 (If not state date of approval.)

Total No. of visits 13

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey: is of good material and workmanship and on completion was tested by hydraulic pressure with satisfactory results

This smoking boiler has been fitted and fixed on board in a satisfactory manner, examined under steam and safety valves adjusted as above
W. H. Morris

Survey Fee ... £ 6 3 0 When applied for, 192
Travelling Expenses (if any) £ 0 0 0 When received, 192

W. H. Morris
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FR 1 AUG 1924
Assigned See old SE 28876