

REPORT ON BOILERS.

No. 12205

Received at London Office - 9 JAN 1925

Date of writing Report

102

When handed in at Local Office

20.12.1924

1924

Port of

Middlesbrough

No. in Survey held at
Reg. Book.

Stockton-on-Tees

Date, First Survey

24th Nov. 1924

Last Survey

20th Dec. 1925

1925

on the

WEST WALES

(Number of Visits 3)

Gross 4340

Net 2665

Master

Built at

Newcastle

By whom built

W^m Dobson & Co

Yard No. 224

When built 1925

Engines made at

Newcastle

By whom made

North Eastern Marine Eng. Co. Ltd.

Engine No. 2590

When made 1925

Boilers made at

Stockton

By whom made

Messrs Riley Bros Ltd

Boiler No. 5577

When made 1924

Nominal Horse Power

490

Owners

Gibbs & Co.

Port belonging to

Cardiff

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

(Letter for Record 8)

Total Heating Surface of Boilers

1175 $\frac{1}{2}$

Is forced draught fitted

no

Coal or Oil fired

coal

No. and Description of Boiler

One Single Ended

Working Pressure 120 $\frac{1}{2}$ lb

Tested by hydraulic pressure to

230 lb

Date of test 20-12-24

No. of Certificate 6424

Can each boiler be worked separately

Area of Firegrate in each Boiler

35 $\frac{1}{2}$

No. and Description of safety valves to each boiler

2 direct Spring.

Area of each set of valves per boiler

per Rule 10.88

as fitted 11.88

Pressure to which they are adjusted

120 lb

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

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'-0"

Length

11'-0"

Shell plates: Material

Steel

Tensile strength

28-32

Thickness

21/32"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

2 Riv. lap

Long. seams

2 Butt 3. 3 riveted.

Diameter of rivet holes in

circ. seams 15/16"

long. seams 13/16"

Pitch of rivets

3" x 6"

Percentage of strength of circ. end seams

plate 43.2

rivets 43.2

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 84.2

rivets 93.6

combined 92.0

Working pressure of shell by Rules

123 $\frac{1}{2}$ lb

Thickness of butt straps

outer 13" x 1 1/2"

inner 13" x 2 1/2"

No. and Description of Furnaces in each Boiler

Plain (2)

Material

Material Steel

Tensile strength

26-30

Smallest outside diameter

40"

Length of plain part

top 84 3/4

bottom 91.0

Thickness of plates

crown 41/64

bottom 41/64

Description of longitudinal joint

weld

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

none

Working pressure of furnace by Rules

120 $\frac{1}{2}$ lb

End plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

23/32"

Pitch of stays 15" x 14"

How are stays secured

nuts & 7" x 1/2" loose washers

Working pressure by Rules

123 $\frac{1}{2}$ lb

Tube plates: Material

front Steel

back Steel

Tensile strength

26/30

Thickness

23/32"

Pitch of stays 15" x 14"

Lean pitch of stay tubes in nests

10 1/4"

Pitch across wide water spaces

14" x 9"

Working pressure

front 126 $\frac{1}{2}$ lbback 120 $\frac{1}{2}$ lb

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32

Depth and thickness of girder

At centre

6 1/4 x 1 1/4

Length as per Rule

30"

Distance apart

7 1/2"

No. and pitch of stays

In each

2 at 9"

Working pressure by Rules

122 $\frac{1}{2}$ lb

Combustion chamber plates: Material

Steel

Tensile strength

26-30

Thickness: Sides

17/32

Back

19/32

Top

17/32

Bottom

31/32

Pitch of stays to ditto: Sides

8 7/8" x 9"

Back

9 1/2" x 10"

Top

7 1/2" x 9"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

121 $\frac{1}{2}$ lb

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

23/32

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

23/32

Pitch of stays at wide water space

14" x 10"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

140 $\frac{1}{2}$ lb

Main stays: Material

Steel

Tensile strength

28-32

Diameter

At body of stay,

2"

Over threads

2"

No. of threads per inch

6

Area supported by each stay

213.75

Working pressure by Rules

122 $\frac{1}{2}$ lb

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

95 $\frac{1}{2}$ "

Foundation

W1139-0126

Working pressure by Rules 132 1/2 Are the stays drilled at the outer ends NO Margin stays: Diameter { At turned off part, 1 5/8 or Over threads 1 5/8 ✓
No. of threads per inch 9 ✓ Area supported by each stay 110 Working pressure by Rules 138 1/2 ✓
Tubes: Material Iron ✓ External diameter { Plain 3 1/4 ✓ Stay 3 ✓ Thickness { 10 S.W.G. ✓ 9/16 ✓ No. of threads per inch 9 ✓
Pitch of tubes 4 1/2" x 4 1/2" Working pressure by Rules 130 4/8 1/8 1/8 ✓ Manhole compensation: Size of opening in
shell plate 20" x 16" ✓ Section of compensating ring 7" x 3/4" ✓ No. of rivets and diameter of rivet holes 40 at 1 5/16" ✓
Outer row rivet pitch at ends 6 ✓ 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 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 - - } 24th Nov. Dec. 2 20 1924. 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 3

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

This boiler has been built under special survey: is of good material & workmanship and on completion was tested by hydraulic pressure with satisfactory results.

Survey Fee ... £ 7 : 16 : 6 } MONTHLY A/c. When applied for, 192
Travelling Expenses (if any) £ : : } When received, 192

W. H. Roberts Wm Morrison
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 31 MAR 1925

Assigned

See other rpt
Nwc 790207



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Foundation