

REPORT ON BOILERS.

No. 12110

Received at London Office 11 OCT 1924

Date of writing Report

192

When handed in at Local Office

9.10.24

Port of

Middlesbrough

No. in Reg. Book. Survey held at

Stockton-on-Tees

Date, First Survey

1st August 1924

Last Survey

6th October

1924

on the

S.S. DRAKEPOOL

(Number of Visits)

11

Tons

Gross

Net

Master

Built at

Stockton

By whom built

Roper S B & Rybo

Yard No. 546

When built 1924

Engines made at

Stockton

By whom made

Thorn & Blair & Co Ltd

Engine No. 1957

When made 1924

Boilers made at

Stockton

By whom made

Thorn & Blair & Co Ltd

Boiler No. 5532

When made 1924

Nominal Horse Power

Owners

Port belonging to

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

D. Colville & Son Ltd & Steel Co of Scotland

(Letter for Record (S))

Total Heating Surface of Boilers

975 sq

Is forced draught fitted

No

Coal or Oil fired

Coal

No. and Description of Boilers

One single ended

Working Pressure

110

Tested by hydraulic pressure to

200

Date of test

6.10.24

No. of Certificate

6401

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

34.3 sq

No. and Description of safety valves to each boiler

2 direct spring - "High Lift"

Area of each set of valves per boiler

per Rule

7.06

Pressure to which they are adjusted

105

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

13 ft on upper deck

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

No

Largest internal dia. of boilers

10' 6"

Length

10' 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

end 2 Riv & 2 Lap

Long. seams

2 Butt 2 Riveted

Diameter of rivet holes in

circ. seams

15/16"

long. seams

15/16"

Pitch of rivets

3" x 6"

Percentage of strength of circ. end seams

plate 68.66

rivets 50.2

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 75.81

rivets 83.70

Working pressure of shell by Rules

116 lbs

Thickness of butt straps

outer 9 5/8" x 7/16"

inner

9 5/8" x 9/16"

No. and Description of Furnaces in each Boiler

Two plain

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

39"

Length of plain part

top 74 1/16"

bottom

81"

Thickness of plates

crown 9/16"

bottom 9/16"

Description of longitudinal joint

Weld

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

None

Working pressure of furnace by Rules

103 lbs

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

21/32" F 3/8"

Pitch of stays

18" x 18" to 19" x 15" stays

How are stays secured

Double nut & 8 1/2" x 5/8" loose washers

Working pressure by Rules

121 lbs

Tube plates: Material

front Steel

back Steel

Tensile strength

26-30 tons

Thickness

3/8"

Mean pitch of stay tubes in nests

10 3/8"

Pitch across wide water spaces

14" x 9"

Working pressure

front 136 lbs

back 127 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

6" x 14"

Length as per Rule

28"

Distance apart

9 1/2"

No. and pitch of stays

in each

2 @ 8 3/4"

Working pressure by Rules

104 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

1/2"

Back

17/32"

Top

1/2"

Bottom

3/4"

Pitch of stays to ditto: Sides

9 1/2" x 8 3/4"

Back

10" x 9"

Top

9 1/2" x 8 3/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

101 lbs

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

21/32"

Pitch of stays at wide water space

14" x 10"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

197 lbs

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

At body of stay

2 3/8"

Over threads

2 3/8"

No. of threads per inch

6

Area supported by each stay

351

Working pressure by Rules

112 lbs

Screw stays: Material

Steel

Tensile strength

26-30 tons

Diameter

At turned off part

1 3/8"

Over threads

1 3/8"

No. of threads per inch

9

Area supported by each stay

90

W1085-0023

Working pressure by Rules 112 lbs. Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part, 1 1/2" or Over thread, 1 1/2" No. of threads per inch 9

No. of threads per inch 9 Area supported by each stay 110 Working pressure by Rules 113 lbs.

Tubes; Material Iron External diameter { Plain 3 1/2" Stay 3" Thickness 5/16" No. of threads per inch 9

Pitch of tubes 4 1/2" x 4 1/2" Working pressure by Rules 130 lbs. Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 7 x 3/4" oval No. of rivets and diameter of rivet holes 36 @ 1 1/2"

Outer row rivet pitch at ends 6" Depth of flange if manhole flanged 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 { 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 ☒ yes

FOR RILEY BROS. (BOILERMAKERS) LTD.
The foregoing is a correct description,
R. B. Riley Manufacturer.

Dates of Survey { During progress of work in shops - - 1924 Aug. 17, 27 Sep. 2, 11, 14, 26 Are the approved plans of boiler and superheater forwarded herewith ☒ yes (If not state date of approval.)

while building { During erection on board vessel - - - 24. Oct. 16 Total No. of visits 11

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 boiler has now been satisfactorily secured on board and fitted in accordance with the Rules, examined under steam and safety valves adjusted W.M.

Survey Fee ... £ 6 : 10 : 0 When applied for, MONTHLY A/c. 192

Travelling Expenses (if any) £ 0 : 0 : 0 When received, 192

W. E. Morrison
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 2 DEC 1924

Assigned