

Rpt. 5a.

REPORT ON BOILERS.

No. 44720.

Received at London Office

3 JUN 1925

Date of writing Report

192

When handed in at Local Office

192

Port of

Glasgow

No. in
Reg. Book.

Survey held at

Glasgow

Date, First Survey

12th Sept 24

Last Survey

25th May,

1925

(Number of Visits 43.)

Gross 5521
Tons Net 3391

on the new steel S/S "RAJPUT".

Master

Built at

Port Glasgow

By whom built

Lithgows Ltd

Yard No. 773

When built

1925

Engines made at

Glasgow

By whom made

D. Rowan & Co Ltd

Engine No. 809

When made

1925

Boilers made at

Glasgow

By whom made

D. Rowan & Co Ltd

Boiler No. 809

When made

1925

Nominal Horse Power

Owners

Asiatic N.G. Co

Port belonging to

London

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR~~ DONKEY.

Manufacturers of Steel

Daniel & Co. & Sons Ltd

The Steel Company of Scotland and The Lanarkshire Steel Co. Ltd

(Letter for Record (S))

Total Heating Surface of Boilers

1152 sq ft

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

215

Date of test

26-3-25

No. of Certificate

16765

Can each boiler be worked separately

-

Area of Firegrate in each Boiler

44 sq ft

No. and Description of safety valves to each boiler

two, direct opening

Area of each set of valves per boiler

per Rule 11.52 sq in

as fitted 11.86 sq in

Pressure to which they are adjusted

115

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

and bunkers or woodwork

16"

Is oil fuel carried in the double bottom under boilers

no tank

Smallest distance between shell of boiler and tank top plating

no tank

Is the bottom of the boiler insulated

yes

mean largest internal dia. of boilers

12'-0"

Length

10'-6"

Shell plates: Material

steel

Tensile strength

28-32 tons

Thickness

32"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end 5/8"

long. seams

D.B.S. TR

Diameter of rivet holes in

circ. seams 13/16"

long. seams 13/16"

Pitch of rivets

2.284"

Percentage of strength of circ. end seams

plate 64.4

rivets 56.8

Percentage of strength of circ. intermediate seam

plate 84.19

Percentage of strength of longitudinal joint

plate 84.19

rivets 94.5

combined 92

Working pressure of shell by Rules

115

Thickness of butt straps

outer 3"

inner 5/8"

No. and Description of Furnaces in each Boiler

two plain

Material

steel

Tensile strength

26-30 tons

Smallest outside diameter

46.56"

Length of plain part

top 6'-1"

bottom 6'-9 3/8"

Thickness of plates

crown 2 3/32"

bottom 2 3/32"

Description of longitudinal joint

welded

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

-

Working pressure of furnace by Rules

131

End plates in steam space: Material

steel

Tensile strength

26-30 tons

Thickness

1"

Pitch of stays

25" x 14"

How are stays secured

D.N.

Working pressure by Rules

110

Tube plates: Material

front steel

back steel

Tensile strength

26-30 tons

Thickness

13/16"

1 1/16"

Lean pitch of stay tubes in nests

12 1/4"

Pitch across wide water spaces

14 1/4"

Working pressure

front 116

back 142

Girders to combustion chamber tops: Material

steel

Tensile strength

26-30 tons

Depth and thickness of girder

at centre

20 1/4" x 9"

Length as per Rule

31 3/4"

Distance apart

9"

No. and pitch of stays

in each

2 @ 10 1/8"

Working pressure by Rules

114

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons

Thickness: Sides

9/16"

Back

9/16"

Top

9/16"

Bottom

2 1/32"

Pitch of stays to ditto: Sides

9" x 10 1/8"

Back

9" x 10 1/4"

Top

9" x 10 1/8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

116

Front plate at bottom: Material

steel

Tensile strength

26-30 tons

Thickness

13/16"

Lower back plate: Material

steel

Tensile strength

26-30 tons

Thickness

5/8"

Pitch of stays at wide water space

13 1/2" x 9"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

116

Main stays: Material

steel

Tensile strength

28-32 tons

Diameter

At body of stay, or Over threads

2 1/4"

No. of threads per inch

6

Area supported by each stay

350 sq in

Working pressure by Rules

126

Screw stays: Material

steel

Tensile strength

26-30 tons

Diameter

At turned off part, or Over threads

1 1/2"

No. of threads per inch

10

Area supported by each stay

92 sq in

Lloyd's Register
Foundation
012273-012278-0059

Working pressure by Rules 1360" Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part, or Over threads 1 5/8" =

No. of threads per inch 10 Area supported by each stay 107 1/2" Working pressure by Rules 142

Tubes: Material Iron External diameter { Plain 3 1/2 Stay 3 1/2 Thickness { 9 W.S. 1/4. 5/8" No. of threads per inch 9

Pitch of tubes 4 1/2 x 4 3/8" Working pressure by Rules 180 Manhole compensation: Size of opening shell plate 19" x 15" Section of compensating ring 6 1/2" x 2 1/2" flanged No. of rivets and diameter of rivet holes 38 @ 1 1/2"

Outer row rivet pitch at ends 5 9/16" Depth of flange if manhole flanged 3" 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

The foregoing is a correct description,
for David Rowan & Co. Ltd.
Arch^d W. Grierson Manufacturer.

Dates of Survey { During progress of work in shops - - - See accompanying machinery report.
while building { During erection on board vessel - - -

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

Total No. of visits

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

The materials and workmanship are good
The boiler has been constructed under special Survey in accordance with the Rules. It has been satisfactorily fitted in the vessel and its safety valves adjusted under steam.

Survey Fee ... £ 4 : 4 : When applied for, 1/6/1925

Travelling Expenses (if any) £ : : When received, 5/10/1925

L. S. Davis.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 2-JUN-1925

Assigned See accompanying machinery report.