

4 NOV 1927

REPORT ON BOILERS.

No. 47068

Received at London Office 21 SEP 1927

Date of writing Report

102

When handed in at Local Office

19-9-1927

Port of

Glasgow

No. in Survey held at

Glasgow

Reg. Book.

Date, First Survey

26-1-27

Last Survey

19-9-

1927

on the

new steel S/S "PENTON".

(Number of Visits

59)

Gross
Tons
Net

Master

Built at

Burntisland

By whom built

Burntisland S.B. Co

Yard No. 141

When built

1927

Engines made at

Glasgow

By whom made

W. Rowan & Co Ltd

Engine No. 860

When made

1927

Boilers made at

Glasgow

By whom made

W. Rowan & Co Ltd

Boiler No. 860

When made

1927

Nominal Horse Power

Owners

Barnett & Co

Port belonging to

London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Phoenix Abt. Hender Nerein of Hende. Germany

(Letter for Record

S

Total Heating Surface of Boilers

6201 sq ft

Is forced draught fitted

no

Coal or Oil fired

coal

No. and Description of Boilers

three single ended

Working Pressure

180

Tested by hydraulic pressure to

320

Date of test

9-8-27

No. of Certificate

17526

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

57.75 sq ft

No. and Description of safety valves to each boiler

two direct spring

Area of each set of valves per boiler

per Rule

13.25

as fitted

14.12

Pressure to which they are adjusted

185 lb

Are they fitted with easing gear

yes

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

yes

Smallest distance between boiler or uptakes and bunkers or woodwork

8'-0"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-6"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

14'-9 9/16"

Length

11'-0"

Shell plates: Material

Steel

Tensile strength

28-32 tons

Thickness

1 1/2"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

DR

long. seams

DBS. TR

Diameter of rivet holes in

circ. seams

7 1/8" B 1 1/2"

Pitch of rivets

3 1/4" B 3.46

Percentage of strength of circ. end seams

plate

62.7 B 63.9

rivets

46.8 B 47.8

Percentage of strength of circ. intermediate seam

plate

85.5

rivets

Percentage of strength of longitudinal joint

plate

89.5

rivets

89.06

Working pressure of shell by Rules

181

Thickness of butt straps

outer

3/32"

inner

1 1/2"

No. and Description of Furnaces in each Boiler

three Wighton

Material

steel

Tensile strength

26-30 tons

Smallest outside diameter

3'-7 3/8"

Length of plain part

top

35"

Thickness of plates

crown

35"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

184

End plates in steam space: Material

steel

Tensile strength

26-30 tons

Thickness

1 1/4"

Pitch of stays

19 3/4" x 20 1/2"

How are stays secured

D.N.

Working pressure by Rules

182

Tube plates: Material

front

steel

back

"

Tensile strength

26-30 tons

Thickness

27"

32"

23"

32"

Lean pitch of stay tubes in nests

10.26"

Pitch across wide water spaces

13 7/8"

Working pressure

front

183

back

183

Riders to combustion chamber tops: Material

steel

Tensile strength

28-32 tons

Depth and thickness of girder

centre

2 @ 7 3/4" x 7 1/8"

Length as per Rule

32.625"

Distance apart

9 1/2"

No. and pitch of stays

each

2 @ 10 3/8"

Working pressure by Rules

181

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons

Thickness: Sides

23/32"

Back

21/32"

Top

23/32"

Bottom

23/32"

Pitch of stays to ditto: Sides

9 1/2" x 10 3/8"

Back

9 1/4" x 8 7/8"

Top

9 1/2" x 10 3/8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

182

Front plate at bottom: Material

steel

Tensile strength

26-30 tons

Thickness

27/32"

Lower back plate: Material

steel

Tensile strength

26-30 tons

Thickness

3/4"

Pitch of stays at wide water space

13 1/8"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

181

Main stays: Material

steel

Tensile strength

28-32 tons

At body of stay,

3" & 2 3/4"

No. of threads per inch

6

Area supported by each stay

405 & 3621

Working pressure by Rules

182

Screw stays: Material

steel

Tensile strength

26-30 tons

At turned off part,

1 5/8" 1 3/4"

No. of threads per inch

9

Area supported by each stay

82.1 & 98.6 B"

Working pressure by Rules 185 lb Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 3/4" or Over threads 1 3/4" ✓

No. of threads per inch 9 Area supported by each stay 99.20" Working pressure by Rules 182

Tubes: Material Iron External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 9 w.s. 1/2 5/16" 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 in shell plate 19 1/2" x 15 1/2" Section of compensating ring 7 1/2" x 1 1/2" No. of rivets and diameter of rivet holes 32 @ 1 5/16"

Outer row rivet pitch at ends 9 1/2" ✓ Depth of flange if manhole flanged 3" ✓ Steam Dome: Material Iron ✓

Tensile strength 141 Thickness of shell 1/2" Description of longitudinal joint 1/2"

Diameter of rivet holes 008 Pitch of rivets 2 1/2" Percentage of strength of joint { Plate 100% Rivets 100%

Internal diameter 008 Working pressure by Rules 180 Thickness of crown 1/2" No. and diameter of stays 008 Inner radius of crown 1/2" Working pressure by Rules 180

How connected to shell 1/2" Size of doubling plate under dome 1/2" Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 1/2"

Type of Superheater None ✓ Manufacturers of { Tubes 1/2" Steel castings 1/2"

Number of elements 1/2" Material of tubes 1/2" Internal diameter and thickness of tubes 1/2"

Material of headers 1/2" Tensile strength 1/2" Thickness 1/2" Can the superheater be shut off and the boiler be worked separately 1/2"

Area of each safety valve 1/2" Are the safety valves fitted with easing gear 1/2" Working pressure as per Rules 1/2" Pressure to which the safety valves are adjusted 1/2" Hydraulic test pressure: tubes 1/2" and after assembly in place 1/2" Are drain cocks or valves fitted to free the superheater from water where necessary 1/2"

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with 1/2"

The foregoing is a correct description,
For David Rowan & Co. Ltd. Manufacturer.
Arch. H. Grierson

Dates of Survey { During progress of work in shops - - - } See Accompanying
while building { During erection on board vessel - - - } Machinery report

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) 1/2"

Total No. of visits 59

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

The materials and workmanship are good.
The boilers have been constructed under Special Survey in accordance with the Rules and have been sent to Burntisland to be fitted in the vessel.
The boilers have been satisfactorily fitted and secured in the vessel, steam raised and the safety valves adjusted to 185 lbs per sq. inch.

Survey Fee See Machinery Rpt When applied for 192
Travelling Expenses (if any) 192 When received 192

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

Committee's Minute GLASGOW 20 SEP 1927

FRI. 18 NOV 1927

Assigned Deferred

See Rth. Rpt. No. 1727/5