

REPORT ON BOILERS.

No. 47318

Received at London Office

30 NOV 1927

Date of writing Report

192

When handed in at Local Office

28.11.27

192

Port of

Glasgow

No. in Survey held at
Reg. Book.

Glasgow

Date, First Survey

22.6.27

Last Survey

23.11.1927

1927

on the

new steel 315 "ZAHRA"

(Number of Visits

30)

(Gross

821

Tons

Net

Master

Built at

Glasgow

By whom built

Harland & Wolff Ltd

Yard No.

8119. When built

1927

Engines made at

Glasgow

By whom made

D W Henderson & Co Ltd

Engine No.

8119. When made

1927

Boilers made at

Glasgow

By whom made

D W Henderson & Co Ltd

Boiler No.

8119. When made

1927

Nominal Horse Power

159

Owners

Vacuum Oil Co

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

David Colville & Sons Ltd & Lanarkshire Steel Co Ltd

(Letter for Record

(S)

Total Heating Surface of Boilers

2608 sq ft

Is forced draught fitted

yes

Coal or Oil fired

oil

No. and Description of Boilers

two single ended

Working Pressure

180

Tested by hydraulic pressure to

320

Date of test

23.9.27

No. of Certificate

17589

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

Two "High lift"

Area of each set of valves per boiler

per Rule 50"

as fitted

6.280"

Pressure to which they are adjusted

180

Are they fitted with easing gear

yes

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

Smallest distance between boilers or uptakes and bunkers or woodwork

5'-0"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

1'-6"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

11'-6"

Length

10'-6"

Shell plates: Material

Steel

Tensile strength

28-32 tons

Thickness

3 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

1 1/8"

long. seams

Pitch of rivets

3'-8"

inter.

7 1/2"

Percentage of strength of circ. end seams

plate

70.39

rivets

44.36

Percentage of strength of circ. intermediate seam

plate

85.71

rivets

Percentage of strength of longitudinal joint

plate

85.71

rivets

94.69

Working pressure of shell by Rules

184

Thickness of butt straps

outer

3/4"

inner

7/8"

No. and Description of Furnaces in each Boiler

Two Deighton

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

41.56"

Length of plain part

top

bottom

Thickness of plates

crown

11 1/2"

bottom

3 1/2"

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

6 1/4"

Pitch of stays

16" x 14"

How are stays secured

DN

Working pressure by Rules

185

Tube plates: Material

front

Steel

back

"

Tensile strength

26-30 tons

Thickness

6 1/4"

Pitch of stays

11"

Mean pitch of stay tubes in nests

10 1/2"

Pitch across wide water spaces

13 1/2"

Working pressure

front

180

back

220

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

2 @ 8 1/2" x 8"

Length as per Rule

30.25"

Distance apart

8"

No. and pitch of stays

in each

3 @ 7"

Working pressure by Rules

187

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

3 5/8"

Back

1 9/32"

Top

3 5/8"

Bottom

1 3/16"

Pitch of stays to ditto: Sides

7" x 8"

Back

8" x 8 3/16"

Top

7" x 8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

180

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

6 1/4"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

6 1/4"

Pitch of stays at wide water space

14"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

274

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

At body of stay,

Over threads

2 1/2"

No. of threads per inch

6

Area supported by each stay

224 sq in

Working pressure by Rules

239

Screw stays: Material

Steel

Tensile strength

26-30 tons

Diameter

At turned off part,

or

Over threads

1 3/8" & 1 1/2"

No. of threads per inch

9

Area supported by each stay

56 & 65.4 sq in

Working pressure by Rules 180.191 Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part, 1 3/4" or Over threads 201
No. of threads per inch 9 Area supported by each stay 90 sq in Working pressure by Rules 201
Tubes: Material steel External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 5/16" & 7/16" No. of threads per inch 9
Pitch of tubes 3 3/4" x 3 5/8" Working pressure by Rules 230 Manhole compensation: Size of opening in shell plate 20 x 16" Section of compensating ring 9 x 3 1/2" No. of rivets and diameter of rivet holes 36 x 1 1/16"
Outer row rivet pitch at ends 7 1/16" Depth of flange if manhole flanged 3" Steam Dome: Material none
Tensile strength 2118 Thickness of shell Description of longitudinal joint
Diameter of rivet holes 2 1/8" Pitch of rivets Percentage of strength of joint { Plate Rivets
Internal diameter Working pressure by Rules Thickness of crown No. and diameter of stays
How connected to shell Inner radius of crown Working pressure by Rules
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
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 & WM HENDERSON & CO., LTD. Manufacturer.

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.)
Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
The workmanship and materials are good.
The boilers have been constructed under special survey in accordance with the Rules satisfactorily fitted in the vessel and their safety valves adjusted under steam

Survey Fee ... £ See Machinery Report When applied for, 192
Travelling Expenses (if any) £ When received, 192

Schdams
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 29 NOV 1927
Assigned See accompanying machinery report
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